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THE PLANTATION OVERSEER AND SOUTHERN NATIONALISM

As Revealed in the Career of Garland D. Harmon

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The overseer was the most maligned individual connected with the plantation establishment.[1] Often uneducated and inarticulate and weighed down with numerous cares, his aversion to writing has caused him to remain a little understood element in the social and economic structure of the period. Given maximum responsibility with minimum authority, his was an anomalous position on the plantation. His primary function involved the supervision of Negro slaves, and these slaves represented the employer's most valuable asset. Yet for this all-important supervision he received grudging pay and uncertain tenure.

A Georgia planter in 1844 stated that the sole test of an overseer's success was the size of the crop;[2] and this sometimes necessitated driving the slaves to the limits of their endurance. It was also observed that "many an overseer [was] dismissed for slight abuse of the Negro but never for the most wretched abuse of the land."[3] These two statements lend some understanding of the overseer's illogical position in a peculiar labor system. Ever mindful of emphasis upon large crops of cotton and corn and of his uncertain status with his employer, he was constrained to take the shortest and easiest route to his immediate objective. Hence, his attitude was likely to be similar to that of the sharecropper of a later era: he had no interest in the conservation of the soil or in the permanence of the employer's establishment. Agricultural reformers blamed his humble occupation for the practice of absenteeism, the one-crop system, and unscientific management of soil, slaves, and livestock.[4] With each new wave of enthusiasm for Southern agricultural reform, a corresponding flow of abuse was heaped upon the overseership. Without the vituperation of the reformers and the absentee employers—all of whom had the leisure to do much writing—the plantation overseer would be revealed today in a less unfavorable light.[5]

[1] This paper is based on data gathered in connection with a longer study, "Agricultural Reform in the Georgia Piedmont, 1820–1860," done under the direction of Professor Fletcher M. Green of the Department of History of the University of North Carolina.

[2] *Southern Cultivator* (Augusta, Athens, Atlanta, 1843–1935), 2:97(1844).

[3] *Ibid.*, 18:44(1860).

[4] *Ibid.*, 7:75(1849), 8:135(1850), 14:209(1856); *American Cotton Planter* (Montgomery, 1851–1856), 4:149 (1854).

[5] A Georgia planter wrote in 1844: "Happy lot is that of the overseer—for a man without education generally, and born to labor. He is well paid for playing the luxurious part of gentleman, and possesses . . . the plantation . . . with all of its means of contributing to his comfort and pleasure." *Southern Cultivator*, 2:97(1844). This statement drew a reply from an overseer who resented its publication in the *Southern Cultivator* but, significantly, the editor wrote that "it exhibited too much feeling . . . to gain admission to our columns." *Ibid.*, 2:135(1844). A note of haughtiness is discernible in many criticisms of overseers by their contemporaries. "Where are [good] overseers to be found?" asked a South Carolinian in 1846. "Are they to be picked up at grog shops, muster fields and political barbecues, where the young men destined to be the planters' agents are trained to a sufficient opinion of their abilities, and especially to their vast privileges as 'free, independent and equal citizens of this republic,' who are not to stoop to be any man's man . . . or to do any man's business unless allowed to do it after his own fashion?" *Ibid.*, 4:106(1846). But the overseer class was not without sympathetic friends among intelligent planters. For example, a South Carolinian wrote: "It is a common saying that 'overseers are a perverse generation of men.' While this is true of many; it is also true that many, very many of them are worthy and intelligent gentlemen, who know what their duties are, and have the courage and faithfulness to perform them." *Ibid.*, 12:270(1854). William J. Eve, a prominent Augusta, Georgia planter said: " . . . far be it from me . . . to detract from their merit or depreciate the estimation in which they should be held. . . ." *Ibid.*, 14:209(1856). No definitive study of the plantation overseer has been made. Perhaps the best available is John Spencer Bassett, *The Southern Plantation Overseer As Revealed in his Letters* (Northampton, Mass., 1925) which is confined to the overseership on the James K. Polk plantations in Tennessee and Mississippi. The overseer is revealed in a more favorable light than historians generally accord him.

In the older cotton belt the overseer's life grew less tolerable during the late ante-bellum period—for it was here that the agricultural reform movement crystallized and gained momentum in the two decades before 1860. Employers became more exacting under the new regime which emphasized fertilizers, contour plowing, diversified crops, and improved livestock.[6] In order to provide overseers who could pursue the new system, it was even suggested that normal schools be established for their training.[7]

Accompanying these changes in agricultural methods was a growing concern on the part of masters for the welfare and more effective management of their slaves, for much of the harshness of nineteenth-century thraldom had disappeared with the flush spirit of the frontier in the eastern cotton belt. "Most assuredly one of the greatest objections to the negro slavery of this country, is involved in the necessity, real or apparent, of employing overseers," wrote a Southwest Georgian in 1848.[8] He believed that no one should own slaves who was not his own overseer. David Dickson, a prominent planter in Middle Georgia, solved the overseer problem by teaching his slaves to become expert operatives and instilling in them a pride in the plantation and in their own accomplishments. "I have in five minutes taught a hand to pick 100 pounds more of cotton per day than he had picked on the previous day."[9] Whether splitting rails, cutting wood, hoeing, or plowing, he relied upon the best tools available and the skill of the operative to overcome the need for hired supervision. Other planters in his community solved the problem by taking over personal supervision of the plantation or by engaging their oldest son in this capacity.

That overseeing in the older planting areas was losing whatever attractiveness it may have ever possessed is attested by many statements from members of the class. Typical of an overseer's complaint is that of a Georgian who wrote as follows:

> If there ever was or ever will be a calling in life as mean and contemptible as that of an overseer—I would be right down glad to know what it is, and where to be found. I am just tired of it, and will quit it, as soon as I can find a better business.
>
> If there be . . . a favorable crop year, the *master* makes a splendid crop; if any circumstances be unpropitious and an inferior crop be made, it is the overseer's fault; and if he flogs [the slaves] to keep them at home, or locks up . . . he is a brute and a tyrant. If no meat is made, the overseer *would* plant too much cotton.... If hogs are taken good care of the overseer is wasting corn, and "the most careless and thriftless creature alive." If he does not "turn out" hands in time, he is *lazy;* if he "rousts" them out as your dad and mine had to do, why he is a brute.
>
> Thus from No. 1 to No. 144 all through the multiplication table.... Every one conversant with negro character, knows well their proclivity for lying and stealing.
>
> Make inquirey of them, and the owner can soon get a budget of news, sufficient to hang any overseer. A man's character is precious even if he is an overseer.[10]

The general level of the overseer class appears to have risen as a result of the late ante-bellum reform movement, as the career of Garland D. Harmon seems to indicate. He cautioned his "brother overseers" to broaden their outlook, acquire a wider range of knowledge, and set a high standard of conduct for the Negroes under their control. "If we would raise the standard of our profession, let us act uprightly, and attend to our business closely, and be paid for our trouble," he advised.[11] He vigorously refuted the current charge that the South's soil was being irretrievably lost through the negligence of overseers. He declared that all men of inferior intellect, regardless of their place in the regime, were equally responsible for all "the clods and gullies" in the southern Piedmont. "We are all too ignorant and until we become more enlightened Southern Agriculture must forever remain in the background," he wrote.[12]

If the reform movement in the older cotton belt resulted in better overseers the effect was somewhat lost because planters in this area were often outbid for their services by more prosperous cotton growers in the fertile regions of the southwest. Constantly on the move at best, and with the minimum of movable goods, the overseers found it much easier to emigrate westward than planters and farmers. In 1856 a South Carolinian complained

[6] For a discussion of the agricultural reform movement in the old cotton belt, see James C. Bonner, "Genesis of Agricultural Reform in the Cotton Belt," *Journal of Southern History*, 9:475–500(1943).

[7] *Southern Cultivator*, 6:134(1848), 7:74(1849).

[8] *Ibid.*, 6:134(1848).

[9] George Frederick Hunnicutt, *David Dickson's and James M. Smith's Farming*, 31–32 (Atlanta, 1910).

[10] *Southern Cultivator*, 20:287(1862).

[11] *Ibid.*, 8:135(1850).

[12] *Ibid.*, 7:75(1849).

that the westward migration was fast taking away the best overseers from his State. "The melancholy fact is that our own region is nearly destitute of even tolerably good overseers," he reported. "And what is worse, they seem to be growing scarcer every year."[13] Thomas Affleck of Mississippi, in 1855, observed that efficient overseers were not to be found in some parts of the South but added: "There are many overseers here who are men well educated and fully competent . . . [and] in not a few instances, much more competent than their employers."[14] Many planters complained of the high standards that were being established for overseers, saying that it would result in too high a price for their services. Martin W. Philips, another Mississippian, was among those criticized because he insisted that they should be able to read, keep records, and make an intelligent showing of their management.[15]

Born in Georgia in 1823, Garland D. Harmon was employed as overseer on the 2,000-acre plantation of Thomas H. Sparks near Cedartown in 1847.[16] Two years earlier, he had married Emily Edge, a student at Hearn Academy in Cedar Valley where her father owned 240 acres.[17] At the time of his marriage, Harmon lived on a 5-acre lot which he owned within a stone's throw of the cave spring where Cedar and Vann's valleys join in Floyd County. In 1847 he sold the lot for $200, with the stipulation that no house for gaming or sale of intoxicating liquors was ever to be erected on the land, thus revealing the puritanical outlook which he manifested throughout his life.[18] As one of his father-in-law's five heirs, he sold his part of the estate for $700 in 1852, together with a half acre of land "which he owned in his own right."[19] Thus, at the age of twenty-nine his short and uneventful career as a petty landowner had ended for all time, and his career as an overseer on the land of others was well begun.

[13] *Ibid.*, 4:106(1846).

[14] *Ibid.*, 15:75(1855).

[15] *Ibid.*, 14:339(1856).

[16] Andrew B. Booth, ed., *Records of Louisiana Confederate Soldiers and Louisiana Confederate Commands*, 3(1):192 (New Orleans, 1920); *Southern Cultivator*, 11:78, 79(1853); *Soil of the South* (Columbus, 1851–1857), 4:199(1854); in Polk County, Cedartown, Georgia, Records, Deed Book C, 280–282.

[17] Floyd County Court of Ordinary, Rome, Georgia, Records, Annual Returns, 1846–1847, p. 181.

[18] Floyd County, Records, Deed Record "L", 561–562.

[19] *Ibid.*, Deed Record "J", 59.

If Harmon was not himself a landowner, his agrarian propensities and interest in the conservation of soil were by no means lessened. In 1852 he wrote several letters to the Rome *Courier*, in which he recommended to Floyd County planters various improved farm tools which he had tested on the Sparks plantation.[20] Among them was Martin W. Philips' "Mississippi Scraper," a tool which with Dickson's "sweep" became the basic implements for the shallow cultivation of cotton and corn. He took a prominent part in the proceedings of the Floyd County Agricultural and Mechanical Association, serving on its important committees with men who bore titles of Esquire, Judge, and Colonel.[21] His exhibit of farm tools won a prize at the Floyd County agricultural fair in 1852.[22]

Harmon early mastered the system of horizontal plowing developed by Richard Hardwick in Middle Georgia and applied it to plantations that came under his supervision. He vigorously advocated the system throughout the South. He was a foremost defender of terracing, then known as hillside ditching, against those who called it a "humbug." "I despise from my heart of hearts, the disposition that seems to be inherent in the very nature of some folks, which prompts them to conjure up difficulties and cast them in the way of improvement," he wrote of those who were critical of such innovations. "They do not intend to make any improvements themselves, and they glory in ridiculing the man that does. They had rather be on earth and cry 'Humbug' than to be in Heaven and cry 'Holy art Thou.' "[23] Harmon associated these critics with what he called "down hill farmers," that is, farmers who left great areas of gullied hillsides and exhausted soil in the wake of their migration to more fertile lands.

Being a native of Georgia's foothills where heavy falls of rain are likely to do considerable damage to land and growing crops, Harmon's major interest became the conservation of soil.[24] He discussed the topic with the fervor of a crusader. Like many nationalists of all eras, his nationalism was deeply rooted in his section's soil. To him the

[20] Rome *Courier*, Nov. 7, 1851, Feb. 26, 1852, May 27, 1852.

[21] *Ibid.*, July 8, 1852.

[22] *Southern Cultivator*, 9:201–202(1852).

[23] *Ibid.*, 13:215, 236, 272(1856).

[24] *Ibid.*, 15:83(1857); *American Cotton Planter and Soil of the South* (Montgomery, 1857–1860), 2:209 (1858).

soil was the fundamental element of man's spiritual life. In that era of migrating planters he insisted that the southern Piedmont would never acquire a settled permanent population until its soil could be reclaimed and conserved. He scorned the practice of simply carting manure to gullied hillsides in a desperate attempt to prolong their productiveness, because it was like "eating soup with a fork."[25] He reminded the political agitators that what the South needed most to end the greatest spoilation to which it was heir was merely a little skill in the use of a simple rafter level for the erection of hillside ditches and contour rows. While Harmon's descriptions of the technique of laying off terraces and rows were not always succinct and clear, there was no man who crusaded more eloquently and persistently in behalf of this practice. To those who complained that his system was too complicated to follow, he boasted that it was possible to locate a ditch half a mile long in ten minutes.[26]

Since the abandonment of old plantations was a manifestation of depleted soil resulting from poor cultural methods, Harmon held no brief for emigrant planters. "... such people never get convinced that they are wrong until they sell the old place for a song, leave their father's grave in the hands of strangers, part with old friends forever, and childhood's happy walks, leave the cool spring of water and the old orchard and take their march for the far off west to live amongst strangers, drink bad water, improve a new home, and to wear it out of course." The gullied hills east of the Mississippi and the fresh land in the west would increase soil depletion and emigration until the South became a desert waste, he warned. "And then, and not until then will our children's children commence, alas! *commence*! ! to study agricultural science, and to improve the old, red hills, in order to live."[27]

Harmon believed that the South's system of agriculture was doing more to destroy the institution of slavery than all other causes combined. "[Our] system of agriculture must be changed, or we are, beyond all question, a ruined people," he said. "Thousands of plantations have been brought from the woods into cultivation within the last fifty years, and worn out, and its [*sic*] owner forced to leave or starve."[28] He wrote:

> Oh, let us for goodness sake, change our system of plantation economy. Let us quit moving. Let the planters of the old cotton-growing districts ... feel themselves at home. Let them fill up the old gullies—improve the old, red hills—prune the old orchard—improve the old homestead—enjoy the society of old friends—visit the old moss-covered church, in whose yard slumbers the remains of long departed friends. Then ... will the South begin to grow stronger, and her institutions placed upon an immovable basis.[29]

Harmon insisted that the criterion of a good overseer involved a consideration of what his management would pay over a long period of time and not, as most planters seemed to think, what it would pay in large crops of cotton and corn. He believed that small farmers could least afford to cultivate their land in such a manner as to wear it out and that it was most important for them to seek higher productivity on fewer acres. It was poor management indeed to plow and cultivate 100 acres and to keep them fenced when 50 would suffice. To those who claimed that their farming left them no time in which to terrace their land, he maintained that they had even less time in which to wear it out. "But the South will not believe this, until they are crowded together, and compelled to believe it by occular demonstration," he said.[30]

Such Southern agricultural leaders as David Dickson, Daniel Lee, Noah B. Cloud, Martin W. Philips, Richard Peters, and Isaac Croom were among Harmon's numerous and regular correspondents. He referred to them as "old veterans in the cause of our country's agricultural salvation."[31] He believed that political agitators were a useless race of men and that the country was more in danger of being ruined by poor farmers than by abolitionists. He once reproached a Louisiana politician for displaying ignorance of the South's fundamental agricultural problems. "Such morbid views of plantation economy has almost ruined the South now. A man of good sense and worthy of public confidence would hardly express

[25] *American Cotton Planter and Soil of the South*, 2:209(1858).

[26] *Soil of the South*, 2:329(1852).

[27] *Southern Cultivator*, 17:235(1859).

[28] *Ibid.*, 16:210(1858).

[29] *Ibid.*, 17:210(1859).

[30] *American Cotton Planter and Soil of the South*, 1:210(1857).

[31] *Southern Cultivator*, 17:142(1859).

such sentiments wholly lacking in progressiveness."[32]

Harmon claimed to have studied agriculture "as a physician studies medicine" and to have read all agricultural works available.[33] "... the thought of learning more and more on farming and planting and corresponding with [agricultural reformers] gives me half the pleasure in life," he once wrote.[34] He insisted that agricultural societies include in their published reports specific and detailed methods used in producing all premium-winning crops. He reported his own experiments with great fidelity and, with the attitude of a genuine scientist, he often questioned the findings of his contemporaries. Once he severely criticised a planter who reported prematurely on an experiment with the Japanese pea, or soy bean. The planter reported growing a single vine from seed sent to him from China. "The vine is eaten by stock of every kind, as I tested in a small way last year," the experimenter reported enthusiastically. Harmon observed that, since he planted only one vine, he tested the matter in an *exceedingly* small way. "I am sorry to see such statements in our agricultural journals," he declared. "It injures our cause, and writers should be more careful how they tell their tales."[35]

Harmon encouraged all planters to devote a small portion of their land to agricultural experiments.[36] "[If] ... every farmer in Georgia, overseer, or what not, was [*sic*] to devote a portion of his time and lands to experimental purposes, and report the result in an Agricultural journal, such a flood of light as would burst upon the Agricultural world, we have perhaps never dreamed of," he said.[37] In 1858 he proposed to contribute $5 toward a silver cup to be awarded to the man who made during that year the agricultural experiment of greatest value to the South. He offered a similar award for the best essay on the renovation of exhausted land.[38]

Perhaps the most original result of Harmon's experiments and observations was his conclusion that plowing was a necessary evil and that it might even be dispensed with entirely,[39] although the folly of too much plowing of cotton and corn was generally recognized by 1860. His plan was to prepare the bed carefully and to plow deeply only on the first plowing before the roots became extended. All subsequent cultivation was done with a scrape or harrow.[40] "My observation ... has convinced me of the fact that ... all work after the first, in thinning and putting to a stand, is a necessary evil to keep weeds and grass down," he wrote.[41] "I have long entertained the opinion that if it were possible, to cultivate a crop of cotton entirely with the hoe, we would make more per acre."[42] He recommended tools such as the Mississippi scraper, the Yost's plow and scraper, and David Dickson's sweep or winged scrape that would simulate the hoe as much as possible. In 1856 he noted that these tools were in very limited use in the southwest but correctly prophesied that "they are destined to find their way to every cotton plantation in the South."[43] His experiments in planting corn led him to the conclusion that, for best results, it should be planted one plant to a hill, 3 feet by 3 on level land, and 4 feet by 2 on horizontal rows.[44] Corn was planted in a furrow below the level of the surface while cotton was planted on a ridge.[45] He developed a variety of cotton which he claimed would mature from ten to twenty days earlier than any other variety. Unlike the generality of planters who sold their improved seed at fabulous prices, he offered to distribute a reasonable quantity of his seed free to those requesting it.[46]

[32] *Ibid.*, 16:144(1859).
[33] *Soil of the South*, 4:199(1854).
[34] *Southern Cultivator*, 17:142(1859).
[35] *Ibid.*, 13:273(1856).
[36] *Soil of the South*, 4:199(1854).
[37] *Ibid.*, 4:73(1854).
[38] *Southern Cultivator*, 16:273, 274(1858).

[39] For a recent exposition of a similar theory, see Edward H. Faulkner, *Plowman's Folly* (Norman, Okla., 1943). The consistency between Harmon's philosophy on plowing and his system of terracing is significant. Many planters of his day believed that deep plowing removed the danger of what is currently called sheet erosion and hence eliminated the necessity for horizontal plowing. *Southern Agriculturist*, 3:123(1830).
[40] *Southern Cultivator*, 11:78–79, 165(1853); *Soil of the South*, 3:455(1853); *American Cotton Planter and Soil of the South*, 1:158, 164(1857).
[41] *Southern Cultivator*, 22:51(1864).
[42] *Soil of the South*, 3:455(1853).
[43] *Southern Cultivator*, 14:364(1856).
[44] *Ibid.*, 12:43(1854).
[45] *Soil of the South*, 3:455(1853); *Southern Cultivator*, 12:243(1854).
[46] *Southern Cultivator*, 19:119(1861). Harmon was among the few farmers at that time who used cotton seed successfully both as fertilizer and as feed for livestock. The inability of gin saws to properly clean the

Most Southern planters believed that grass was a thing to be destroyed and, since it was the bane of the cotton and corn crops, they entertained no thought of planting it anywhere on the plantation. Harmon believed that the South would be greatly benefited by emphasizing grass as a cultivated crop. He read with great interest of experiments with grass culture made by Charles W. Howard in Georgia and by Isaac Croom in Alabama. "... such triumphant experiments ... are revolutionizing public sentiment on the subject. When I pass a plantation and see luxuriant grass lots—green pastures—dotted all over with colts, calves, and pigs, sleek and playful, grazing at their leisure or standing under the shadow of some beautiful shade tree, I could almost swear that the occupant is a man of fine sense and highly cultivated taste."[47]

As with cotton, corn, and grass lots, Harmon carried on experiments with many other phases of agriculture in the Lower South. In 1857, just two years after "Chinese sugar cane" was introduced into the South, he began reporting experiments on sorghum syrup-making and the value of sorghum cane for stock feed. He informed the readers of the Marietta, Georgia, *South Countryman* that good syrup could be made from sorghum at a cost of 29 cents a gallon. He believed the value of the cane for hog feed would prove greater than that of corn.[48]

Harmon criticised the current method of growing hogs by letting them forage in the woods "from January to December." Allowing boars unrestricted range not only precluded selective breeding but resulted in litters of scrawny pigs in the spring which were retarded by cold weather and poor feeding.[49]

The model planter was one who produced everything he needed for home consumption at the risk of making a small crop of cotton. He would study agricultural science and take care of his land so as to leave it in good condition for posterity.[50] Harmon had no patience with newspaper editors and editorial writers who could write about nothing except large crops of cotton. "The country will be ruined soon enough by politicians and abolitionists without your aid," he warned.[51] The *Wiregrass Reporter* described the management of such a "model farmer" in its agricultural column. Concerning this farmer's claim to such distinction, Harmon wrote:

> I read line after line ... expecting every moment to learn something new about subsoiling, compost making, and ... horizontal culture, rotation of crops, fine stock raising, culture and management of grass.... Now imagine my utter disappointment to find that none of these subjects were mentioned ... and nothing else that a model farmer wants to practice.
>
> "He cultivated thirty acres to one hand, and does it as easily as some planters do twenty." That is what he done, and ruined his plantation, I add.... If I had but one prayer to offer for agricultural improvement, it should be, O! Lord deliver my country—my native South—from such "model farmers."[52]

Harmon's insistence upon diversified agriculture and economic independence led him eventually into a crusade on behalf of Southern nationalism in nearly all of its varied forms. He recommended Southern-made plows over their Northern competitors, believing that "Southern mechanics" were able to supply the planting States with all the tools they needed.[53] He solicited Dr. John S. Wilson, of Columbus, Georgia, author of a column in *Godey's Lady's Book*, to write a book on diseases of Southern Negroes and their treatment. "[Such a book] written by a Southern raised and Southern educated man ... is a step toward Southern independence," he said.[54] He deplored the large circulation of the New York *Ledger* throughout the South and reprimanded Southerners for patronizing "with a liberal hand, almost any other paper except those devoted exclusively to their interests."[55] His enthusiasm for all things of Southern origin sometimes led him to embrace innovations of a questionable or spurious nature. For example, he highly recommended B. V. Iverson's "Rescue Grass of the South,"[56] which turned out to be the chess, *Bromus secalinus*, or in later

lint from the seed rendered it unpalatable to livestock. Harmon overcame this difficulty by soaking the seed in a solution of wood ashes. *Ibid.*, 17:200(1859).

[47] *Southern Cultivator*, 18:85(1860).

[48] *Southern Countryman*, 1:84(Marietta, 1859).

[49] *Southern Cultivator*, 15:78(1857).

[50] *American Cotton Planter and Soil of the South*, 2:81–82(1858); *Southern Cultivator*, 17:197(1859).

[51] *Southern Cultivator*, 15:224(1857).

[52] *American Cotton Planter and Soil of the South*, 2:371(1859).

[53] *Southern Cultivator*, 18:54(1860).

[54] *Ibid.*, 75.

[55] *American Cotton Planter and Soil of the South*, 3:149(1859).

[56] *Southern Cultivator*, 18:18–19, 98(1860).

vernacular, cheat grass, and unworthy of a moment's notice as a cultivated grass. Its promoters in Georgia, where it originated, sold the seed for as much as $160 a bushel.[57]

In January 1856, Harmon severed his connection with Thomas H. Sparks in Vann's Valley where, unlike most overseers, he had enjoyed an uninterrupted tenure of nearly a decade. For the next two years he worked for a planter at Utica, Mississippi. Here he suffered attacks of dyspepsia and went for a time to Mont Vale Springs near Knoxville for recuperation.[58] Subsequently he never stayed longer than a year at any place of employment. He seems to have improved his economic status each year, however, for many planters throughout the South were bidding for his services. When the *Southern Cultivator* in 1857 began a movement to bring him back to Georgia as a "traveling missionary for hillside ditching and horizontal plowing," he informed them that his prospects as an overseer were "very flattering" at that particular time. "I have no less than four propositions for next year, and I must have some encouragement before I can get the consent of my mind to yield up my business and engage in something else."[59] Beginning in January of the following year, he was engaged by Dr. Martin W. Philips, one of the best known agricultural experimenters in the southwest.[60] The two men had almost identical philosophies on livestock growing and diversified farming.[61] They conducted experiments with hogs and visited together many famous plantations in the vicinity, gathering important information on agricultural methods in use.[62] Philips' diary, however, indicates that he had some misgivings about Harmon's plan of "pitching the crop" in 1858. The relationship between the two men ended in apparent harmony at the end of the year when Harmon was succeeded by Littleberry Wells, an overseer who was employed at $400.[63]

An interesting prelude to Harmon's employment by the Mississippi reformer was a controversy which the two men waged in the columns of the *American Cotton Planter* in 1854 on the subject of overseers. Harmon took issue with Philips' theory that overseers should be closely supervised and their prerogatives kept to a minimum. Harmon's past experience had left him with little faith in the planter's interest in the conservation of his own soil. He maintained that a good overseer should demand complete control of both Negroes and land. To all overseers he advised "never to agree to oversee for a man who wants you to 'go by directions' for I assure you that man . . . only wants a 'driver' and you will be more troubled by him than forty negroes."[64] Philips held that it was incredible for a master on hiring an agent not to retain control over his own affairs. Of Harmon, whom he had never seen at that time, he wrote with some display of sarcasm: "I had taken up the idea that friend H[armon] was a man beyond my years, a large, portly, good humored man. I have heard he was a General, and knowing that a Georgia Major was some, I naturally thought a General was more."[65] Harmon informed Philips that he was neither a Georgia major nor a general. "Nor am I an old steam doctor, nor do I wish to be either, I am content with the stall I am in."[66] He proved a worthy adversary to the Mississippi planter-physician. He avowed great respect for Philips' contributions to Southern agriculture, but he did not retreat from his stand that an overseer should be given full responsibility and not held to written instructions. According to his view, "a very common man can manage a plantation better, to be always on it, than a very uncommon man can, to be absent from the plantation more than half the time."[67]

In this and similar controversies with planters of more or less prominence, Harmon demonstrated that he was as much devoted to his calling as an overseer as to the cause of Southern agriculture.

[57] Charles W. Howard, *A Manual of the Cultivation of the Grasses and Forage Plants at the South*, 18–19 (Atlanta, 1881); Liberty Hyde Bailey, *The Standard Cyclopedia of Horticulture*, 1:578(New York, 1930).

[58] *Southern Cultivator*, 15:83(1857).

[59] *Ibid.*, 16:250(1857).

[60] Franklin L. Riley, "Diary of a Mississippi Planter, Jan. 1, 1840 to April, 1863," Mississippi Historical Society, *Publications*, 10:460(Oxford, 1909).

[61] Philips wrote in 1858: "I assure you had I the power, I would tax any man 25 per cent on every pound of meat bought. . . . These men who are looking to, how will the northwest make a living, if we do not buy their pork, how can they buy [cotton] cloth? ought to remember, there was once a man who made a fortune by attending to his own business." *American Cotton Planter and Soil of the South*, 2:399(1858).

[62] *Ibid.*, 181–182; *Southern Cultivator*, 16:144(1858).

[63] Riley, "Diary of a Mississippi Planter," 460.

[64] *American Cotton Planter*, 2:14, 213(1854).

[65] *Ibid.*, 280.

[66] *Ibid.*, 346.

[67] *Ibid.*

Once in reply to a scathing invective aimed at his class, he advised all overseers to "treat with silent contempt" such criticisms of their occupation. "Let us avoid everything like strife and let our object be the prosperity of the country," he cautioned. "We profess to be united mutually on the great work of renovating Southern lands, and let us never stop short of its accomplishment."[68]

In Mississippi Harmon continued his preachments on behalf of horizontal culture. "I have been ridiculed here by some who call themselves p-l-a-n-t-e-r-s," he wrote, "because I contend that a worn out place may be improved at less expense than one can be taken from the woods." He thought that western planters were inferior to those of Georgia because cotton was the all-controlling motive in their agricultural pursuits. He found the planters of Hinds County, Mississippi "enterprising men of capital," but he asserted that not more than a thousand loads of manure were annually hauled into the cotton fields of that county. He demonstrated his method of making compost in the fields where it was to be used and he called this compost "Georgia manure." He claimed to have located the first hillside ditch in Hinds County. "They have 'crooked rows'... but no horizontalizing that deserves the name," he observed. Nothing short of a miracle, he believed, could save that region from dilapidation and ruin. "It is Cotton, Cotton, and Corn, Cotton, Cotton, and Corn, all over the country," ran his lament. Prospective emigrants from Georgia and the eastern States were warned of the bad water there, and they were advised to think twice before leaving their father's spring of water for Mississippi.[69]

The *Southern Cultivator*, published at Augusta, Georgia, was Harmon's favorite journal. He thought this agricultural paper had done more for the South than any other journal. "It deserves the everlasting praise of every lover of his country," he said.[70] "[The Cultivator] is published in the Empire State of the South—the State in which I have lived and labored the last twelve years, and the state which stands higher, in an agricultural point of view, than any other State south of Mason and Dixon's line. . . ."[71] Again he wrote: "No man who denounces agricultural improvement and agricultural journals, and totes corn in one end of a sack and a rock in the other end to balance it because his 'daddy' done it, can possibly be a 'good farmer.' "[72] In Mississippi he began a campaign to obtain new subscribers for the Georgia agricultural paper and gave evidence of some success. In 1860, for example, he was able to write: "Old fogyism knows full well that in the Cultivator it has an over-match, and he is retiring from the field with all his train of errors and humbugs, fog and gloom, and taking higher ground in the ranks of progress and improvement."[73]

From Hinds County, Mississippi, Harmon went to Milliken's Bend on the Mississippi River in Madison's Parish, Louisiana. Here he stayed one year and then went to Compromise Place near Tensas Bayou, a few miles farther west. For the first time in his career he found no need for hillside ditches and contour plowing in that "land of flowers." He admitted:

> I now see how foolish I was to think that Floyd, Polk, and Cass Counties, Georgia, was the best country in the world.... I cannot for the life of me see how it is possible for a country to be much better than this. The soil is at least ten feet deep, [and] the face of the country is as level as old ocean in the profoundest calm....[74]

The problems of this agricultural reformer were not ended by his sojourn in the fertile bottom lands of the Mississippi Valley, however, for he found much of which to disapprove in Madison's Parish. He condemned the practice of burning all the accumulated litter in the fields, instead of converting it into useful compost.[75] This was a manifestation of that baneful practice resulting from the combination of expensive slave labor and relatively cheap land—a fearful combination which had ruined the cotton lands of the eastern slave States. He reported the Mississippi River in flood stages and told of his attempts to save a thousand-bale crop of cotton.[76] Once he complained of being unable to read at night after the toils of the day "without being bedeviled by forty niggers—here after everything you can mention."[77]

By 1860 Harmon was well known among readers of agricultural journals throughout the Lower

[68] *Southern Cultivator*, 7:181(1849).

[69] *Ibid.*, 14:111, 113(1856), 15:78(1857); *American Cotton Planter and Soil of the South*, 1:238(1857).

[70] *Southern Cultivator*, 15:300(1857).

[71] *Ibid.*, 14:111(1856).

[72] *Ibid.*, 197. Quoted from *American Cotton Planter.*

[73] *Southern Cultivator*, 18:37(1860).

[74] *Ibid.*, 19:119(1861).

[75] *Ibid.*, 16:144.

[76] *Ibid.*

[77] *Ibid.*, 18:151(1860).

South.[78] The simplicity of his language, the practical vein of his discussions, and the zeal with which he presented the cause of Southern agriculture won for him a remarkable reputation. "Judging from his contributions I think there are few more competent [than he] . . . to give advice on agricultural subjects," said a Georgian in 1858.[79] A Louisiana planter wrote in 1860:

> Mr. Harmon is a trump not often turned up from the pack of which he is a member, and deserves from his readers some more solid emolument than the empty mede of praise that all are ready to heap upon him. Cannot the old state of Georgia send us a few more men of the same stripe to fill the places of incompetent men, who are receiving salaries of which they are unworthy, and which would be better paid to better men?[80]

"I thank you and others for your kind expressions of approval . . . of my poor services in the great cause of our country's Agricultural salvation," Harmon wrote to Noah B. Cloud, editor of the *American Cotton Planter*. "Every man who has a soul in his body, can but feel grateful to those who cheer him along through the rugged path of life."[81]

While Harmon was the recognized spokesman for his class and the ready champion of those overseers who were less articulate than himself, there is little doubt but that he always dreamed of the day when he could own his own land and lead the life of a planter. His yearning for such a life is unwittingly revealed in much of his correspondence. The following letter, written near the end of the ante-bellum plantation era, is perhaps a typical example of his longing:

> When I was overseeing for Judge Sparks, in Georgia, I thought that the lands in Cedar Valley and Vann's Valley and the lands in Cass County, about Cartersville, was [*sic*] just as fine as I cared to have. Riding along, looking at the plantations and the lands of that country, I have thought many a time, that if I was so fortunate as to own a place there and about thirty hands, I could make it the *model* place of the South. I have located myself upon several plantations there that I could name, and then marked out the "modus operandi" by which I would proceed to make it *the place*. I have horizontalized it, composted it, sub-soiled it, laid off my grass lots and clover lots, arranged my buildings, planted an orchard, set out shade trees, employed a landscape gardener, platted off my vegetable garden, and then, when all was accomplished, entertained my friends, and oh! how near Paradise I thought I should be, if in that condition. . . .[82]

The great tragedy of Harmon's career was that he never realized, even remotely, his cherished dream of landownership. About the time the above letter was written another exponent of agrarian reform and Southern nationalism—an ageing son of the Old Dominion—was firing the opening shot against the walls of Fort Sumter. It is to be questioned whether Edmund Ruffin's broad acres at Marlbourne made him more solicitous for what he considered the agrarian ideal of life than the spiritual fortitude of this landless overseer.[83] One thing is fairly certain: the nationalism of the two men arose largely from a spiritual relationship to the soil.

On July 7, 1861, Harmon enlisted as a private in the Ninth Louisiana Infantry.[84] Two weeks later, on the first day of the Battle of Bull Run, he wrote to the *Southern Cultivator* from his station in Richmond:

> I received many letters of inquirey before I left home, which I had not the time to answer. Please tell my correspondents that I will be at Manassas Junction in two days, in the midst of the cannon's roar, and perhaps may never reply to their favors. Good-bye old friend Cultivator.[85]

Harmon's military career in the cause of Southern independence lasted two years longer. Its premature end was the result of weakness of the flesh and not of the spirit. From June to October

[78] *Ibid.*, 78, 211; *American Cotton Planter and Soil of the South*, 1:238(1857); 2:310(1858).

[79] *American Cotton Planter and Soil of the South*, 2:310 (1858).

[80] *Southern Cultivator*, 18:214(1860).

[81] *American Cotton Planter and Soil of the South*, 1:238(1857).

[82] *Southern Cultivator*, 19:119(1861).

[83] For Ruffin's agrarian reforms and Southern nationalism, see Avery Craven, *Edmund Ruffin, Southerner* (New York, 1932).

[84] Booth, *Records of Louisiana Confederate Soldiers*, 102. When news of the outbreak of hostilities reached Harmon he expressed discouragement that Southern planters had not yet achieved economic independence of the North. "The voice of the cannon shakes the solid ground, and rivers of blood will be spilt," he correctly prophesied. "Planters! be up and doing. Feed your people while they fight your battles. Drop off a few cotton bales, and raise corn and pork. Let us strike for independence, for home, for country." *Southern Cultivator*, 19:218(1861).

[85] *Ibid.*, 257.

1862, he lay sick at Staunton and for the rest of that year he was incapacitated for active duty. During the winter of 1863 he was hospitalized at Richmond. In April he was discharged from the service with a surgeon's certificate of disability. "Palpitation of the heart" had rendered him unfit for the heavy marching in the campaigns of the Shenandoah Valley.[86] Back in Georgia, he wrote from Marietta in April 1863:

> Stonewall Jackson kept us moving so, in the Shenandoah Valley last spring, and up to the battle of Fredericksburg, that I had no time to write to you. I have often desired to do so about the beautiful clover fields, grass fields and lawns of Northern Virginia.... I have gathered some facts in relation to Virginia farm economy that I hope will be of use to me in after days, provided our cause triumphs....[87]

Harmon asked farmers to grow more peas and beans, for "Nothing is so much relished by a soldier in camp as a good kettle of bean soup." Again he urged the necessity for economic independence. To the *Southern Cultivator* he wrote: "Time has demonstrated the fact, that the doctrine which you and I ... advocated so long and earnestly of making the South independent of the North and Northwest, was correct. Had these doctrines been heeded then ... there would be no necessity now for legislative action and executive appeals on the subject of subsistence." Unable to get back to Louisiana, he applied for employment in Georgia. "I have done all I could for near two years with my musket in Jackson's corps; now I want to do what I can with the plow," he said. "I can manage a plantation as well as ever."[88]

In Georgia Harmon found employment at Sand Town, on the banks of the Chattahoochee River in Campbell County. There he set about his task of farming by day and writing sage letters on methods of improving Southern agriculture at night. He never once predicted the defeat of the South, but he often contemplated her future with gloomy forebodings. "God alone knows our destiny. Let us plow deep, trust in God and keep our powder dry and the torrent of invasion will be rolled from our own, our native land and the rainbow of promise once more span our heavens."[89]

While Sherman was hammering at Georgia's northern passes he was able to find a moral for improved tillage and the conservation of soil out of the welter of unhappy events which was slowly but surely changing the direction of Southern civilization. "Remember we are not to be subjugated by the sword," he wrote. "If we are subjugated at all, it will be done by the plowshare.... Then let us plow together and fight together, until the consumation of all our hopes is achieved, and our country free, prosperous, and happy."[90]

At Sand Town Harmon was in the direct path of Sherman's invading army in 1864, and Hood's evacuation of Atlanta forced him to move again. After the war ended he worked for several years in Cobb County—probably as a tenant farmer—amid scars of fire and devastation. He then moved to Macon County, near Montezuma, where his trail mysteriously ends in 1870.[91] He wrote occasional letters to the *Southern Cultivator*, the only agricultural journal in the South which survived the civil conflict, but they were infrequent and bore no evidence of enthusiasm for the agrarian life under the new regime. The zenith of his career had passed with Appomattox.

Harmon was a representative of that group of better plantation overseers who moved westward with the expanding frontier of cotton planting. Between 1848 and the close of the Civil War, he contributed nearly one hundred articles to various agricultural journals of the Lower South in which he discussed with great fervor nearly every phase of agricultural reform. Being one of the few articulate members of his class, he became its unofficial spokesman in the cotton belt. On more than one occasion, he held his own in verbal contests with plantation masters relative to the proper method of managing plantations. His early correspondence indicates a keen interest in improved plows, hillside ditching, and horizontal tillage to preserve the fertility of the land and to prevent soil waste. In nearly all of his discussions he manifested an almost fanatical devotion to Southern soil. In the late 1850s, he became a strong advocate of economic independence within the plantation establishment, and finally he turned to Southern nationalism and

[86] Booth, Records of Louisiana *Confederate Soldiers*, 192; *Southern Cultivator*, 21:77(1863).

[87] *Southern Cultivator*, 21:128(1863), 22:51(1864).

[88] *Ibid.*, 21:128(1863), 22:51(1864).

[89] *Ibid.*, 21:128(1863).

[90] *Ibid.*

[91] Even after months of diligent search, the author has been unable to locate a living representative of Harmon's family. Being a member of the propertyless class, his name seldom appears on the records of the counties in which he lived.

political independence. Thus, he was a genuine product of the social, economic, and political forces which were fast shaping the lives of Southerners into a somewhat uniform pattern in the last two decades before Appomattox. However, his claim to historical recognition perhaps lies in the fact that he was a landless overseer whose life reflects the more intelligent overseer's viewpoint on the plantation regime—a point of view upon which Southern history has hitherto been all too silent.

AGRICULTURAL DEVELOPMENT IN BRITISH COLUMBIA

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While the land west of the Rockies was still the fur-traders' paradise, spasmodic attempts were made at farming. The first tilling of land and sowing of seeds took place at Nootka Sound in 1786. At the foot of Stuart Lake, David Harmon of the North-West Company planted a little garden in 1811. He discovered, as others were later to do, that there were certain natural hazards in that part of the country for vegetable growing. It was not until after five years of struggling against the ravages of wild animals, insects, and late spring frosts that he succeeded in producing his first fine crop. Some of the Hudson's Bay Company's factors at Fort St. James, Fort Fraser, and Fort George later followed his example and tended small plots, hoping to produce a sufficient quantity of food to make their posts self-sufficient. To the fur trader, however, farming was completely subsidiary to the main purpose of collecting furs, and agriculture, as an industry, did not develop until modern times.

It was not until after the gold rushes had attracted fortune seekers to the country and created a demand for farm products that farmers began to take up land. They prospered until the population in the mining areas dwindled. Fortunately the completion of the transcontinental railroad in 1885 served to stimulate farming once more, for it helped to concentrate population in the centers where the new industries were established. The day soon passed when the farmers only produced sufficient quantities for private needs or local markets. They began shortly to produce greater quantities which they expected to sell on more distant markets where they would have to face the competition of other producing areas. Scientific methods of cultivation, of packing, storing, and shipping, and of distributing perishable goods had to be studied. It was in the field of specialized agriculture and experimentation in controlled marketing that British Columbia was to make its unique contribution to Canadian agriculture.

The precursors of the modern agriculturist were the first to test the suitability of the soil and the resources of the country. The fur traders discovered that the bunchgrass country around Kamloops could be used for both horse raising and cattle ranching. From this district they obtained the horses required to supply the brigades that traveled from Fort St. James southward through the Okanagan Valley to the Hudson's Bay Company's depot on the Columbia River. After James Douglas had decided to move the supplies and furnishings of Fort Vancouver to Fort Victoria, cattle were transferred from Fort Vancouver to Kamloops about 1846. When Victoria became the company's headquarters, Fort Langley on the lower Fraser came into greater importance, and a new route was opened from Fort St. James to Fort Langley. The fertility of the soil around this post and the ease of sending supplies to Vancouver Island by water led to the development of farming.[1] Butter produced here was soon sold to the Russians in Alaska, and before long quite a trade in farm products also developed between the Russians and the company's farms on Vancouver and San Juan islands.

Every fur trader knew, however, that farming and fur trading were incompatible, and consequently

[1] In the years 1843–48 there were between 500 and 600 horses at Kamloops and about 200 at Alexandria. Alexandria also produced wheat and had a flour mill. Grain and vegetables were raised soon after the founding of Langley in 1827. The farm of 2,000 acres on Langley Prairie was subdivided and sold in 1878. The post was closed in 1896. E. O. S. Scholefield and F. W. Howay, *British Columbia from the Earliest Times to the Present*, 2:590–592 (Vancouver, 1914).

nothing was done to encourage settlement in the huge area which the Hudson's Bay Company regarded as its game preserve. For imperial reasons the British government favored the establishment of a colony on the western coast and, when company's charter to exclusive trade with the Indians was renewed in 1849, insisted that the company encourage the colonization of Vancouver Island. The settlement grew slowly. In 1851 there were only 15 independent settlers and in 1856 only 30. The company had reserved for its own purposes 10 square miles of land around Victoria, priced the land at £1 an acre, and laid down the requirement that every purchaser of 100 acres should bring 5 laborers or 3 married couples from England.[2] Among other deterrents were the lack of nearby markets, the infertility of patches of unforested land, the cost and labor involved in clearing and draining heavily timbered land, and later the competition from California and Oregon cereal grains.[3]

It is significant that the first application for farming land on the mainland was coincident with the fever that followed the discovery of gold on the bars of the lower Fraser River. In the spring of 1858 some 30,000 miners hurried through Victoria. That autumn W. K. Squires applied for a grant of 100 acres of land on an island in the Fraser River across from Hope, one of the centers of activity. He received a lease pending legislation permitting the sale of land. Shortly afterward Governor Douglas issued the first pre-emption ordinance. It was framed to enable a pre-emptor to take up 160 acres of land with the right to purchase it at 10 shillings an acre.

The first great impetus to farming came with the discovery and opening up of the Cariboo gold fields in 1860. For five or six years there was a lively demand at the mines for food of all kinds, and fantastic prices were commanded.[4] To relieve the pressure on the food supply, Governor Douglas urged the importation of herds of cattle and sheep from Oregon.[5] The accounts of J. C. Haynes, the customs officer at Osoyoos, indicate the number and size of the drives which took place along the Okanagan Valley route to the Cariboo. Between January 1, 1861, and June 30, 1864, 7,720 cattle, 5,378 horses, 998 mules, and 1,371 sheep passed through his station.[6] Many of the men who had been engaged in packing to the mines during this period decided to take up land and went south to Oregon and California to get herds of cattle. Some of the Americans, such as General Noel Palmer, who brought animals into the country, decided to settle. By 1865 cattle ranching was fairly well established along the Thompson River Valley west of Kamloops and in the Nicola Valley.[7] In the Cariboo, many of the stopping places along the road had ranches in conjunction.

For the average person, however, gold mining was much more attractive as an occupation. This is not surprising as the Fraser River and Cariboo mines yielded $39,953,618 between 1858 and 1876.[8] Because of the small number of persons engaged in farming, production was long insufficient to supply the demand, and as late as 1862 all butter and cheese had to be imported into British Columbia. By 1868, the settlers around Chilliwack and Sumas were making butter and profiting from its shipment to the Cariboo where the miners were willing to pay $1.00 a pound.[9] With the fall in food prices, a number of men abandoned farming, and in 1870 agricultural products valued at $225,193 were imported into the province.[10]

From the beginning the farmer in British Columbia was handicapped by the difficulty of carrying goods vast distances over difficult terrain. Farms were located in the fertile valleys that lie between the parallel ranges of mountains, and it was indeed a perilous adventure to lead pack horses or mules or to drive cattle or sheep over trails which became impassable in winter and spring and across rivers which became mighty forces at the time of the freshet. The great Cariboo road which linked

[2] Great Britain Parliament, House of Commons, Select Committee on the Hudson's Bay Company, *Report*, 192, 286–287 (London, 1857).

[3] H. A. Innis and A. R. M. Lower, eds., *Select Documents in Canadian Economic History, 1783–1885*, 794 (Toronto, 1933).

[4] For example, at Quesnel bacon sold for 80 cents per pound, beans 80 cents, potatoes $90 per 100 pounds, and eggs for $8 a dozen. *Ibid.*, 803.

[5] Note by James Douglas on W. G. Cox's letter to W. A. G. Young, Apr. 6, 1862, Provincial Archives of British Columbia.

[6] J. C. Haynes to W. A. G. Young, Oct. 19, 1861–June 30, 1864, Provincial Archives of British Columbia.

[7] C. W. Vrooman, "A History of Ranching in British Columbia," *Economic Annalist*, 11:20 (1941).

[8] *Select Documents*, 789.

[9] Scholefield and Howay, *British Columbia*, 2:593.

[10] *Select Documents*, 794.

Yale, the head of navigation on the Fraser River, and Barkerville in 1865 was an inestimable boon to packers and traders. The wagon road built from Kamloops to Okanagan Mission (Kelowna) in 1875-76 in no small part accounted for the flourishing cattle industry in the Okanagan Valley in the 1880s and 1890s. In like manner, the Hope-Princeton trail served to link the Fraser and the Similkameen, while the wagon road built in 1876–77 from Spence's Bridge on the Fraser to the Nicola provided an outlet for the Nicola Valley. Trails were also cut to mining areas, to Wild Horse Creek in the Kootenay, to Big Bend on the Columbia, and to Omineca and Cassiar.[11]

The desire for connection with eastern Canada by a road of some kind was one of the strongest reasons why the farmer on the mainland urged British Columbia's entry into the Canadian federation. Most of the farmers on the mainland were Canadian, many of them from Ontario, and some of them had made the long and treacherous overland trip to British Columbia. They had a sentimental attachment for the eastern provinces and a desire for political connection, but it would be wrong to assume that they favored confederation only for these reasons. During the troubled times after 1873 when British Columbia felt itself aggrieved by the slow progress in railway construction, the mainland farmer was inclined to be less irritable and less impatient than the tradesman on Vancouver Island, for he had a certain market in supplying the survey parties. In the 1880s when actual construction was begun, the whole farming population benefited from the business of supplying construction camps. With the completion of the railway, it seemed as if an inexhaustible market has been opened on the prairies and in the coast cities.

After the hard times of the 1870s, the farmers were ready for a taste of prosperity. In the interior, cattle ranching was conducted on a large scale. Conditions were almost ideal in the Okanagan, Similkameen, and Nicola valleys. Bunchgrass grew luxuriously on the hillsides, the ranges were well watered, and the winters were not too severe. The Douglas Lake Cattle Company in the Nicola Valley, organized in 1882 as a syndicate, gained control of such large acreage that it is still regarded as the largest single ranch in Canada.[12] At both ends of Okanagan Lake and along the west bank there were also huge ranches. North of the boundary line the Haynes estate and Theodore Kruger owned a strip of land 20 miles long and 1½ wide. At the northern end of the lake, Thomas Wood, Cornelius O'Keefe, and Thomas Greenhow had large ranches. By 1892 there were nearly 20,000 cattle in the territory between Osoyoos and Spallumcheen.[13] The animals were driven to Victoria, Nanaimo, and New Westminister,[14] and at least one ambitious farmer thought of driving his cattle to the meat-packing plants of Chicago.

The acquisition of large tracts of land at reasonable prices was made possible by the provincial land laws. North and east of the Cascade (Coast) Range, 320 acres might be recorded for pre-emption upon the payment of a nominal fee by British subjects or aliens who intended to become naturalized. Elsewhere in the province 160 acres might be taken up. Title was obtained after satisfying the two years' residence requirement, carrying out improvements to the value of $2.50 an acre, and paying the purchase price of $1.00 an acre. In any part of the province, 640 acres of crown land might be purchased outright at a minimum price of $5.00 for first-class land, $2.50 for second, and $1.00 for third. In the railway belt, the dominion government's lands were administered by the Department of the Interior under practically the same homestead regulations as applied on the prairies.[15]

With the coming of the railway, ranges had to be fenced. The cattle ranches began to be broken up as land values rose. In some of the valleys land companies acquired large tracts which they put on the market as orchard lands after they had built expensive irrigation works. In the Kootenay and Boundary districts, lands of the Canadian Pacific Railway were sold at prices ranging from $1.00 to $5.00 per acre for best-class agricultural land.[16] In the Okanagan Valley, values increased from $1.00 in 1898 to $1,000 an acre in 1910. In more than one case the investor became the victim of the land speculator.

[11] *Ibid.*, 777.

[12] Vrooman, "A History of Ranching . . .," 21.

[13] British Columbia Department of Agriculture, *Report*, 1893, p. 1604, 1611, 1612, 1617, 1618.

[14] *Guide to the Province of British Columbia for 1877–8*, p. 31 (Victoria, 1877).

[15] R. E. Gosnell, *The Year Book of British Columbia and Manual of Provincial Information*, 126–127 (Victoria, 1903).

[16] *Ibid.*, 128.

The railway also increased competition on the home market. In many parts of British Columbia, farmers discovered that their costs of production were higher than those of the Alberta farmer. Wheat farming, in particular, could not meet the competition. In 1895 the mill at Enderby shipped 30 carloads of flour to the Japanese government, but its activities were soon curtailed. In the lower Fraser Valley, the wheat was discovered to be inferior to prairie wheat for milling purposes.

Competition was keenly felt in the new markets which came into existence as the rich ore-bearing areas of the Boundary and Kootenay districts were developed in the 1890s. After 1897 the Canadian Pacific Railway reduced the rates to southern British Columbia on a variety of farm products. Eventually the government of British Columbia was able to negotiate with the railway company and obtain lower rates for the fruit of the Okanagan Valley so that it would not be at a disadvantage in competing with American fruit.[17] As in the 1860s, the Americans had found profitable markets in the Kootenay.[18] A result of the competition was that an economy began to develop in British Columbia which was complementary to that of the prairie provinces.[19] Large-scale farming continued in such districts as the Cariboo and the Similkameen, but in others, such as the Okanagan and Fraser valleys, highly specialized farming became the rule. At the same time, pressure was put on the federal government to close the Canadian market to American produce.

The strain on the farmer in British Columbia was eased in the late 1890s by the demand for food which developed with the great rush to the Klondike in 1897. High prices were paid at the mines, but transportation was difficult as one rancher found when he attempted to drive his cattle from Chilcotin.[20] The development of the lumbering and fish-packing industries also stimulated agriculture. For farming communities whose only outlet was in these small centers a real problem often arose once the timber had been cut or the mine or cannery closed.[21] The suffering was felt more in the depression years of this century, however, than during the expansion of industry.

As late as 1905, British Columbia was importing $2,000,000 worth more agricultural produce than it was exporting. Only in 1911 did home production exceed imports. Today it consumes most of its production and exports relatively little.[22] Although farmers could not supply the demand for food in the early part of the century and prices remained high, they complained about the congestion of the local market by prairie and American farmers. The truth of the matter was that they could not reduce the price at which they sold their products because of transportation charges and the relatively high cost of production. To understand the situation it is necessary to realize the size of British Columbia and the distances that separated farming communities from large centers of settlement. The province equals the combined area of Washington, Oregon, and California, or the total area of the United Kingdom, France, Holland, Belgium, and Denmark. Only about 5 percent of the province, or 14,248,000 acres, is suitable for agricultural purposes.[23] In certain areas the cost of clearing land, of supplying irrigation water, or of building dykes increased the capital outlay. Furthermore, labor was seldom cheap or plentiful in British Columbia. Freight rates have always been regarded as being unjustly high, and farm implements imported from eastern manufacturing centers as too expensive. In addition, a certain amount of marginal land was taken up by enthusiasts who had little practical knowledge of farming methods.

The boom in land sales generally took place when railway expansion was expected. Prosperity had come to the farmers of the Fraser Valley when a large population had been concentrated in the nearby cities and a great demand created for a fluid milk supply. The success of the dairy herds

[17] Mary Quayle Innis, *An Economic History of Canada*, 257 (Toronto, 1935).

[18] According to F. W. Howay, W. N. Sage, and H. F. Angus, *British Columbia and the United States*, 259 (Toronto, 1942), "as late as 1896 the trade was 90 per cent American."

[19] G. Neil Perry, "The Significance of Agricultural Development and Trade in the Economic Development of British Columbia," *Scientific Agriculture*, 20:73–86 (1939).

[20] Vrooman, "A History of Ranching. . .," 22.

[21] *British Columbia in the Canadian Confederation; A Submission Presented to the Royal Commission on Dominion-Provincial Relations by the Government of the Province of British Columbia*, 51 (Victoria, 1938).

[22] In 1935, the gross value of agricultural products in British Columbia was $42,419,992; of this $8,575,573 was sent out of the province. Within the province, products to the value of $33,844,419 were consumed. *Ibid.*

[23] *Ibid.*, 27.

was well known. The prospect of further railway building in the central and northern part of the province led to a campaign of advertising which was likely to ensnare the unwary purchaser. Probably the biggest boom took place at Fort George, the prospective terminus of the Grand Trunk Pacific Railway. There in 1911 an energetic selling campaign was put on by George J. Hammond, who not only laid out a town site but established a Natural Resources Security Commission which had selling agencies in Canada, the United States, and Europe. "Fort George will be the railway hub of inland British Columbia," Hammond enthusiastically predicted.[24] An advertisement read: "Ten railroads building or chartered—some surveyed—all headed to Fort George."[25] From the end of steel on the Grand Trunk and over the old Cariboo Road, people poured into the region to buy town sites at Fort George or farming land in the Nechako Valley.

While the merits of Fort George were being extolled, Kamloops was being referred to as "the Los Angeles of Canada," and Stewart, the proposed "terminal of the Canadian North-Eastern Railroad," as "the Pacific's Treasure Chest," because of its proximity to the mineral resources of the Portland Canal district and the farming regions of "the virgin Naas River Valley."[26] Certain sections of the Cariboo experienced a gentler boom in the days after the war when the provincial government undertook to build the Pacific Great Eastern Railway.

Land values were naturally inflated as the superlative richness of British Columbian soil and the accessibility of farming districts to markets were exaggerated. For the most part, it was the unwary Britisher who was attracted by these reports and who invested his capital in land in the interior. The fertile land in the delta of the Fraser River had been taken up at an early date by Canadian farmers who came chiefly from Ontario. In the Cariboo, both Canadians and Americans had settled in the mining days. On Vancouver Island, there were more English settlers since retired officers of the Hudson's Bay Company and of the British navy had taken up land.

British Columbia had always advertised its wares in England. It maintained there an agent who was expected to encourage immigration and the influx of British capital.[27] But it was the land companies with their advertising and the books written by visiting Englishmen which did much to attract English settlers. Both of them placed certain emphasis upon the amenities of social life in British Columbia. A. G. Bradley, a well known historian who had contributed to the *Cambridge Modern History*, told his compatriots that in Vancouver, "The people are mainly from Eastern Canada, or the old country, and what are generically known as the 'better classes,' are very strongly represented. Within limits it is a cosmopolitan city, and contains the best club west of Toronto."[28] He praised the beauties of the northern part of the Okanagan Valley where a former governor-general of Canada, Lord Aberdeen, had an estate of 13,000 acres, comparing the lakes favorably "with the type of Buttermere or Ulleswater." Of the Cowichan district on Vancouver Island, he wrote: "Most of the settlers are from the old country, and quite a number of them retired military and naval men, or what is generically known as the younger son. As most of these enjoy, I believe, small private incomes or pensions, which go three times as far under an enforced if cheerfully accepted simplicity of life as they would in the old country, farming must be considered in their cases an accessory rather than a main source of livelihood."[29] He also proffered gratuitous advice to the remittance man and tried to explain the difference between his attitude toward farming and that of the Canadian and American farmer who "wants to 'get there'."[30]

Another English writer, John Bensley Thornhill, attempted to weigh the evidence about British Columbia's natural wealth and resources but wrote of the northern interior of the province: "I am personally acquainted with one man, who, going out to British Columbia twelve years ago, and taking up the breeding of heavy horses, has,

[24] J. O. Wilson, "Fort George Boom Days," *Vancouver Daily Province*, Apr. 27, 1928.

[25] Advertisement in *British Columbia Magazine*, 7:662 (Vancouver, 1911).

[26] *Ibid.*

[27] G. M. Sproat, British Columbia's agent in the period after confederation, was very active. Articles praising the province and its agricultural possibilities appeared in the London *Times* during the 20s, and the premier of British Columbia at the same time contributed similar articles to the *Christian Science Monitor*.

[28] A. G. Bradley, *Canada in the Twentieth Century*, 382 (Westminster, 1903).

[29] *Ibid.*, 409–410.

[30] *Ibid.*, 415.

with an original capital of £4,000 acquired over 200,000 acres of grazing land (independent of his open forest range, which he uses and for which he pays nothing), and whose income is now £18,000 a year, and likely to increase.... I would mention that, given a 300 acre hay meadow, and a reasonable amount of range in the open forest country, a man with adequate capital to buy cows, etc., could at the end of three years have a permanent income of a net of £1,000 per annum. He could do equally well in sheep or horses, for with the exception of a few coyotes (wild dogs), which are easily shot or poisoned, there are no wild beasts to contend with."[31] To the valleys of British Columbia came hundreds of British settlers who for the most part had capital but little practical knowledge of the fine art of fruit growing. Few of them probably heard the warning "The Dominion experiences periodical 'booms,' which are unhealthy for legitimate speculation and investment.... A knowledge of Canadian conditions and possibilities, national and local geography, is obviously essential to the purchase of land which will yield a good return to the investor."[32] The spectral remains of orchards can today be seen in remote valleys or in sections of the country where engineering efforts failed to provide adequate water for irrigation. Some of the owners left the country to offer their services to the British fighting forces in World War I; some clung to their holdings until the post-war depression forced them to quit.

In the pre-war period, considerable British capital was invested in pulp and paper mills in the province as well as in the British Columbia Electric Railway project and the Kootenay mines, but the private investor was more interested in the fruit lands than in anything else. Although American capital was invested in the Kootenay coal mines and ore-bearing areas and in timber stands, there were few American settlers in the rural areas. About $5,000,000 of German capital was also invested in British Columbia coal lands and real estate by 1910, but there was no great migration of German settlers. The same was true of the French who invested some $1,500,000. There had, however, been French-Canadian settlers in pockets in the Okanagan Valley since the gold flurries of the 1860s. The Belgians invested about $950,000 in British Columbia fruit lands, and a number of them settled in the northern end of the Okanagan Valley. Some four hundred Doukhobors moved from the Yorkton to the Kootenay district to take up land and invested some $1,500,000.[33] There were considerable numbers of Orientals on the coast, but the population of British Columbia was predominantly British, with the English element being proportionately larger than in the other Canadian provinces.[34]

With the World War, the land boom collapsed largely because of the over-capitalization of land. A shorter boom took place between 1919 and 1921 when prices for farm products were still high. During these years a number of British and Canadian veterans took up farms under the dominion government's Soldier Settlement Scheme. Few of them remained in farming for long. Often they were settled on land that was unsuited for agricultural purposes, and still more often they lacked both sufficient capital to tide them over emergencies and the training in agriculture which was necessary for success.

Until 1921 agriculture in British Columbia was in the experimental stage, and farmers were governed in planting their crops by the size of the local market. Most of their attention went to solving the problems of cultivation and production. Once they had mastered the technical side of agriculture, they began to produce for markets outside the local field. With the lessening of the cost of production which resulted from improved technique, they attempted to compete on Canadian and export markets with other producing centers.

As early as 1912 the provincial government set up a royal commission to examine proposals for solving some of the problems which hampered successful competition with other areas. The chairman of the commission visited England, Denmark, Germany, France, Holland, and the United States to obtain information about such matters as immigration of farm labor from the United Kingdom, systems of goverment credit, and

[31] J. B. Thornhill, *British Columbia in the Making*, 93–95 (London, 1913).

[32] Fred W. Field, *Capital Investments in Canada*, 101 (Montreal, 1911).

[33] *Ibid.*, 35, 36, 38, 61, 101.

[34] In 1881, the British races composed 29.24 percent of the total population in the province; in 1901, 59.60; in 1911, 64.38; in 1921, 73.87; in 1931, 70.57. The English composed 14.75 percent of the total population in 1881; in 1901, 29.59; in 1911, 33.93; in 1921, 42.16; in 1931, 39.25. *British Columbia in the Canadian Confederation*, 60.

rural cooperation. Other commissioners visited New Zealand and Australia, the prairie provinces, and the fruit-growing centers in California, Washington, and Oregon. In its report the commission emphasized the importance of introducing new and improved methods of cultivation, of opening new areas to settlement, of establishing a system of agricultural credit, and of having the provincial Department of Agriculture undertake new functions such as the collection and dissemination of information about markets. Some practical results followed, but other plans were forced to lapse during the war years. The commission drew public attention to the fact that "The lack of successful cooperation as a means to better organized and more profitable marketing was found to be the greatest drawback in many communities."[35]

Experimentation in cooperative schemes had already commenced. In 1889 the tree fruit growers had established the British Columbia Fruit-Growers' Association to study the problem of developing the markets of Manitoba and the Northwest Territories and to consider the manner in which the marketing of fruits might be controlled. Many of the growers were skeptical of the value of cooperation and anxious to protect freedom of enterprise, but finally exigencies drove the fruit growers in the Okanagan Valley to establish in 1913 a cooperative central selling and distributing agency. The provincial government showed that it was sympathetic and aided the effort by advancing 80 percent of the capital required. During the war years, and indeed until 1921, the fruit growers were able to eliminate competition from eastern Canada and from the United States on the prairie market, but the hard times of 1921–22 showed the need of still better organization.

In 1923 many of the fruit growers in the Okanagan Valley entered into an agreement to sell their fruit for a five-year period through a new central organization. Some 20 percent of their number refused to support the plan, and their defection meant that little measure of success was achieved. Prolonged competition between fruit shippers debased the market. In addition, the commission appointed to investigate the distribution of fruits and vegetables revealed certain allegedly dishonest practices among middle-men.

[35] Province of British Columbia, *Full Report of the Royal Commission on Agriculture*, 11 (Victoria, 1914).

As prices fell and distress grew, the provincial government attempted to ease the situation in 1927 by passing the Produce Marketing Act. The purpose of this legislation was to establish a commission which would license shippers and establish minimum prices for sales on the domestic market as well as determine the quantities to be marketed and the terms of sale. Some improvement in conditions resulted from this act, although American shippers continued to undersell Canadian producers. New powers were assumed when the committee established a system of compulsory price pooling. Shortly afterward, in the spring of 1931, the Supreme Court of Canada declared the Produce Marketing Act unconstitutional. Suggestions that the industry return to conditions of unrestrained competition were put forward by the commissioner investigating the industry. They were brushed aside by the majority of the growers.

During the next few years various experiments were tried. In 1931 a shipper's council had the voluntary support of 80 to 90 percent of the shippers but lacked coercive power to enforce decisions. In 1932 a cartel supported by 90 percent of the shippers permitted only 40 percent of the tonnage to be sold on the domestic market. In 1933, after a growers' revolt, a central selling agency tried to force compulsory cooperation on growers and shippers. In the spring of 1934 the Supreme Court of British Columbia found the new agency to be illegal since it was acting in restraint of trade and contravening the criminal code.

Just when the prospect of exerting control over refractory growers and shippers seemed most distant, the dominion government passed the Natural Products Marketing Act in the spring of 1934. It was to provide for the regulation of the sale of natural products through the establishment of local boards which were to deal with one commodity. The provincial governments were to assume the responsibility of establishing the boards, of supervising them, and of making recommendations to them. In due course the Tree Fruit Board was established in the Okanagan Valley. It had the support of nearly 90 percent of the growers. The benefits accruing from this scheme were soon dispelled. In 1935 the Supreme Court of Canada found the act to be *ultra vires*. The provincial government then assumed the obligation of fostering control and in 1937 passed legislation to permit producer boards to regulate

intra-provincial sales. This act has withstood testing in the courts and an appeal to the Privy Council.

A great measure of regulation in the fruit industry exists at the present time. In 1938 the Provincial Marketing Board set up the Tree Fruit Board to be the sole agency for the marketing of apples. The shippers were invited to sign an agreement to conduct their transactions through this board, so that sales could be distributed among them on a pro rata basis. The board has the power to make collections from the buyers and to pay the shippers the proceeds of the sales after brokerage charges and discounts have been deducted. In 1939 the system was supplemented by the creation of a central selling agency, Tree Fruits Limited, which is owned and operated by the growers. During the past five years, this agency handled 41,000 cars of fruits valued at $44,500,000.[36] Today the growers, through their agency, exercise control over practically every step in the sale of fruit. Tree Fruits Limited has its own brokerage houses in five prairie cities and in Vancouver and a list of wholesale jobbers with whom it deals.[37]

The cooperative fruit-marketing schemes have been important because they have helped to establish the cooperative marketing of other farm products grown in Canada. In 1939–40, British Columbia had sixty-nine farmers' cooperatives doing a total annual business of nearly $11,000,000. During 1931–40, British Columbia stood third among the provinces of Canada in the annual value of products per occupied farm marketed cooperatively, with only the grain-growing provinces of Saskatchewan and Alberta having a higher average.[38] In 1942 the royal commissioner investigating the operations of the boards under the provincial act reported favorably on the arrangements which had been made: "The policy of central selling has been proven by experience to have given the grower an equal bargaining position with distributional agencies."[39] The initiative taken by the provincial government has been followed by others, and six additional provinces now have similar legislation.

In spite of the remarkable strides made in cooperative marketing, the fruit industry was in a serious position when the export market, which absorbed about 50 percent of the crop, was diminished by the war. The federal government came to the assistance of the growers in the autumn of 1939 by giving them subsidies. The War Measures Act was extended to agriculture. By virtue of its provisions, the Tree Fruit Board has sole control of the sale of apples produced in a given area and the power to pool the proceeds of the sales. In 1941, the returns of soft fruits and tree fruits were pooled for the first time. In 1941–42, the federal government also agreed to purchase 1,500,000 boxes for shipment to Great Britain, although it gave no guarantee covering sales on the domestic market. When oversea shipments became almost impossible in 1942, it guaranteed the sale of 4,500,000 boxes on the domestic market. With improved buying power on the prairies, it was hardly necessary to utilize the arrangement. In 1943 the crop was small. In addition, military and lend-lease requirements as well as the opening of a limited export market combined to create a seller's market. For the first time in history, the markets for British Columbia apples had to be rationed.

While there has been great concern with marketing problems, the growers have not neglected other phases of the industry. There is an intelligent interest in the science of agriculture so that the valiant research work done by the government experimental stations is not wasted. The growers know, too, that they must reduce the costs of producing their product. In 1940 the British Columbia Fruit-Growers' Association requested the federal Department of Agriculture to conduct a survey of the cost of production of apples in the Okanagan Valley. The results were illuminating. Most growers had assumed that the cost of producing a 40-pound box of apples was in the neighborhood of 40 cents (this had been their goal in the revolt of 1933); for 1939 the average was 46.7 cents. Costs varied from 28.75 cents on some farms to $1.82 on others.[40] For the four

[36] *Country Life in British Columbia*, 28(2):5 (1944).

[37] A. E. Richards, "Marketing Margins on Apples," *Economic Annalist*, 12:10 (1942).

[38] A. E. Richards, "Farmers' Co-operative Business Organizations in Canada, 1939–40," *Economic Annalist*, 11:38 (1941). The annual average for all Canada in 1931–40 was $202 per farm; for Saskatchewan, $355; Alberta, $297; and British Columbia $294.

[39] A. M. Harper, quoted in *Country Life*, 26(9):23 (1942).

[40] S. C. Hudson and B. A. Campbell, "Costs and Returns in the Production of Apples in the Okanagan Valley," *Economic Annalist*, 11:28 (1941).

crop years, 1936–1939, the survey also revealed that the average market price at the shipping point for the varieties, grades, and sizes studied was $1.015, of which the grower received a net return of 49 cents and the packing companies which supplied the services of packing, assembling, grading, storing, and selling the fruit 52.5 cents.[41] Under these circumstances whatever prosperity comes with the war must be regarded as temporary until a more equitable division is worked out and the costs of production reduced.

With the war, the British Columbia farmer has found that new problems have been substituted for old. At one time, the tariff had been his greatest concern because it did not give much protection on the home market. He feared too that he might at some time lose the advantage on the British market enjoyed since the Empire trade agreements were negotiated. Today his great problem is to obtain a sufficient supply of labor. In establishing subsidies on butterfat and on certain commodities such as vegetables required for canning purposes, the federal government took into account the rising cost of labor. There is also a Dominion-Provincial Farm Labor Service which is attempting to solve the problem of labor shortage.

The drift from the rural districts started before the war. The census of 1931 showed that the young men were not employed in agriculture and that only 14.7 percent of the total population was on farms.[42] The preliminary figures of the 1941 census reveal that this percentage had fallen to 13.[43] In many districts the farmer is now dependent on the voluntary labor supplied by townspeople at harvesttime. In some areas, he can obtain the services of persons of European origin who have moved to British Columbia from the drought areas of the prairie provinces; in others, he can obtain Japanese laborers who have been moved from the defence zone on the coast.

The war naturally brought some adjustment in crops. The small fruits industry in the Fraser Valley declined since the Japanese were moved into the interior. In 1941 the Japanese produced about 75 percent of the strawberry crop. In 1942 unsatisfactory weather coupled with lack of labor at harvesttime and inexperience on the part of the growers who had leased the land led to a 50-percent reduction in production. Instead of the anticipated crop of 6,500 tons, only 3,200 tons were harvested.[44] The farmers responded to the government's request for increased production of dairy products and bacon. It is true that they complained sometimes of ceiling prices occasionally imposed on potatoes and onions, but they entered willingly into the plans for growing vegetables for dehydration, fiber flax, and vegetable seeds. Seed growing now has an annual value of $2,000,000.

In the rural areas British Columbia is losing its decidedly British tone. The census of 1931 showed that of the 25,562 farm operators who reported their birthplace, 8,315 were Canadian born, 9,413 British born, and 7,834 foreign born. Of the last group 77.8 percent owned land.[45] The preliminary figures of the 1941 census show that the rural areas of British Columbia had 11,752 Japanese, 11,159 Germans, 9,921 Russians, 5,867 Chinese, and 3,980 Ukrainians in 1941.[46] There is now a problem of racial assimilation in addition to the work of converting many of these people to a belief in the value of cooperative marketing. In the past, efforts have been made, particularly in the marketing of vegetables, to control the activities of Orientals without giving them representation on marketing boards. Truly democratic methods will have to be practised to obtain real cooperation.

Looking to the post-war period, the provincial government has set up a Post-War Rehabilitation Council. It will survey the total resources of the province, study the possibilities of settlement on hitherto unused land, and the methods of rehabilitating returned soldiers and unemployed war

[41] A. E. Richards and J. E. O'Meara, "Prices and Returns for British Columbia Apples," *Economic Annalist*, 11:24 (1941).

[42] In 1881, the acreage of improved land per person engaged in agriculture was 70.6; in 1901, 45.8; in 1911, 20.3; in 1921, 15.5. Dominion Bureau of Statistics, Seventh Census of Canada, 1931, *British Columbia Census of Agriculture*, xi. Over 65 percent of the rural population in 1931 had no connection with farms.

[43] Summary by J. Coke and F. Shefrin of preliminary reports and releases of the Demography Branch, Dominion Bureau of Statistics, in *Country Life*, 28(2):9 (1944).

[44] *Country Life*, 27(5):6 (1943).

[45] Dominion Bureau of Statistics, Seventh Census of Canada, 1931, *British Columbia Census of Agriculture*, xlvi.

[46] Dominion Bureau of Statistics, Eighth Census of Canada, 1941, *Population: No. A-9*.

workers. The province has also made the dominion government a gift of 1,000,000 acres for soldier settlement purposes. It is to be hoped that this time there will be no real estate boom. At the moment, land values are very low, having fallen 48 percent in ten years.[47] It is to be hoped, too, that new settlers will carry on the pioneer work so well commenced in cooperative activities.

[47] Coke and Shefrin, in *Country Life*, 28(2):9 (1944).

NEWS NOTES AND COMMENTS

MORE ABOUT THE MAMMOTH CHESHIRE CHEESE

The statement in my recent article on "Elder John Leland and the Mammoth Cheshire Cheese" that "there is no record of the final dimensions of the great cheese" (*Agricultural History*, October 1944, p. 149) has prompted Professor Edwin M. Betts of the University of Virginia to send me the following excerpt from a letter by Thomas Jefferson, dated January 1, 1802, the day the cheese was presented, to his son-in-law, John W. Eppes: "The Mammoth cheese is arrived here, & is to be presented to-day. it is 4. f. 4½ I. in diameter, 15. I. thick, & in August weighed 1230. lb. it is an ebullition of republicanism in a state where it has been under heavy oppression. that state of things however is rapidly passing away, and there is a speedy prospect of seeing all the New England states come round to their antient principles; always excepting the real Monarchists & the Priests, who never can lose sight of the natural alliance between the crown & mitre . . . ."

This excerpt so kindly supplied by Professor Betts not only furnishes exact information on the dimensions of the cheese on the day it was cut but also enables us to speculate with greater certainty as to the changes in dimensions which it underwent after being taken from the press. All records agree that the great hoop in which the cheese was pressed was 4 feet in diameter and 18 inches high. In tightening the screw of the press the curds were squeezed down to much less than 18 inches. Once the hoop was removed, the elastic mass of compressed curds would begin to expand slowly in all directions. As five months elapsed between the manufacture and the presentation of the cheese, there would have been sufficient time for it to attain the dimensions given by Jefferson. Another factor in the expansion, suggested by O. E. Reed, Chief of the U. S. Bureau of Dairy Industry, is the formation of gas during the curing of the cheese.—*C. A. Browne.*

MALIN'S "WINTER WHEAT IN THE GOLDEN BELT OF KANSAS"

The principal focus of the book by James C. Malin entitled *Winter Wheat in the Golden Belt of Kansas: A Study in Adaption to Subhumid Geographical Environment* (Lawrence, University of Kansas Press, 1944) is the transition country where streams emerge from the Great Plains and form the upper Kansas River. Politically the area is organized as Riley, Geary, Dickinson, and Saline counties. The history of their crops and livestock, the methods of cultivation, and the factors leading to change are traced in detail by periods from 1855 to 1902. The chapter on tillage, planting, and harvesting machinery is especially noteworthy. The treatment of the tradition that the Mennonites were the first to introduce Turkey red winter wheat is also of unusual interest.

The volume is a segment of a comprehensive program of research that Professor Malin has pursued for over a decade. He has selected community areas in Kansas that embody agricultural variations with a view to providing actualities for generalizations applicable to larger geographical regions. His chief attention, thus far, has been on the history of farming operations and the adaptations of the agricultural systems to various environments.

The methodology and contents of the volume have a great importance and significance for local and agricultural history. It is an outstanding example of a local history that contributes to a comprehension of the State, regional, and national scenes. It also provides the data needed for careful delineation of the history of American agriculture. With a small area as the main focus a researcher is able to utilize all the sources and depict what actually happened and why. Professor Malin's studies provide purchase and reality for overall summaries.—*Everett E. Edwards.*

THE TRAITS AND CONTRIBUTIONS OF FREDERICK JACKSON TURNER

ULRICH BONNELL PHILLIPS

This appraisal of Frederick Jackson Turner is unusually interesting because of the stature of the subject and of the author in historical scholarship. Turner and Phillips were acquaintances, colleagues, and friends for over thirty years. In the preface of *Georgia and State Rights* (1902), his first printed work, Phillips referred to what may have been his first contact with Turner in these words: "As a result of listening to a very suggestive lecture by Dr. F. J. Turner upon American sectionalism, I set to work some years ago to study the effect of nullification upon Georgia politics." On receiving his doctorate for this work in 1902, Phillips was invited by Turner to the University of Wisconsin to teach Southern history. In due course, Phillips moved to Tulane, Michigan, and Yale and Turner to Harvard, but as Mrs. Phillips has said with reference to her husband, "His friendship with Prof. Turner was one of the high lights of his life."

Phillips prepared this appraisal of Turner for presentation at the joint meeting of the Mississippi Valley Historical Association and the Agricultural History Society with the American Historical Association at Toronto, Canada, on December 28, 1932 but was unable to attend because of illness in his family. In his absence, Frederick Merk read the paper for him. The short "Memorial to Frederick Jackson Turner" that Phillips had drafted for the annual meeting of the American Historical Association (see its *Annual Report*, 1932, p. 55) on the same day was read by Dexter Perkins and is not to be confused with the longer evaluation here printed for the first time.

The present text is a transcription from a photostat of the autograph copy in the Yale University Library and is printed with its permission and that of Mrs. Phillips. The footnotes have been added.—*Everett E. Edwards.*

It is now near a quarter-century since my departure from the Wisconsin campus ended my routine touch with Turner and lengthened the tether of my attachment.[1] It seems but yesterday, so vivid is the memory of his ruddy face, his dancing eye, his vibrant mellow voice, his ringing laugh, his eager questions and ready comments, and his vivacious interest in the students who sought his guidance.

Taking the word from Basil Gildersleeve, Turner called himself not an instructor but a radiator. His great function was to stimulate and exhilarate young scholars in a way to make them stimulate others, and so on in a ripple which, though it must lessen in the lapse of time and the spread of space, never quite reaches an end. As a partial measure of this, Turner's name appears in the dedications or saliently in the prefaces of a prodigious number of worthy books and monographs. These inscriptions, not any words of ours, are his main memorial. My task is not to praise, which is no task, but to appraise his traits and his transactions.

Formally or informally Turner was a pupil of Lyman C. Draper, founder of the Wisconsin Historical Society—Draper who zealously collected records from which to write the lives of many "border heroes" and died in old age without writing a single biography! To gather data, fresh, authentic, and copious was Draper's controlling passion; he could virtually never get beyond it; against his own will, he was a hoarder of documents and of endless jottings. Turner, unlike Draper, never acquired original manuscripts; but his appetite for data was insatiable. A mere lifetime was too short for the jotting of all that he needed to have at command, and his jottings attained a mass which overwhelmed him. To this counsel of completeness in data Turner added on his own score counsels of brilliance in analysis and perfection in phrase. No wonder he published occasional essays rather than stout volumes.[2] His counsels thwarted him. Nature, which gave him keen insight and a literary style in early manhood, laid upon him in after years a chagrin that he could not do what he thought he should.

Turner was thirty-two years old in 1893 when his "Significance of the Frontier in American History" made an epoch in scholarship. Giving a startlingly fresh orientation for analyzing a large seg-

[1] See Fulmer Mood, "The Development of Frederick Jackson Turner as a Historical Thinker," Colonial Society of Massachusetts, *Transactions*, 34:342–343, for a consideration of the relationship of Turner and Phillips at Wisconsin.

[2] Everett E. Edwards, "Bibliography of the Writings of Frederick Jackson Turner," in *The Early Writings of Frederick Jackson Turner*, 233–272 (Madison, University of Wisconsin Press, 1938).

ment of human experience, this brought repercussions at once, and eventually from as far away as Lord Curzon when viceroy of India. The recognition was of course a strong spur to other exploits. The frontier, "free land" hypothesis led Turner to the study of regional patterns and mutations in some detail, not merely for the sake of testing his concept of the frontier as a "process" rather than a mere locality, but for whatever other enlightenment such inquiry might yield. Hence an assembling of a great deal more data from hither and yon, an exposing of himself to knowledge of varied sorts in the hope of other great discoveries. Hence also chagrin that further startling discoveries did not come his way. He thought he was not living up to his early promise.

The world, except for Henry Holt and Company, did not share this disappointment; and his colleagues and students thought Turner's routine itself a performance worthy enough. But in a moment of great confidence and little self-analysis he had made a contract for a textbook history of the United States, and, always needing money, had accepted an advance royalty. For forty years the contract stood. I doubt that a chapter of the book was ever written; but the promise was a thorn in the would-be producer's flesh.

With a passion for completeness and a counsel of perfection, such a man could not produce a textbook or a "standard" history. Turner's literary talent was that of an essayist, never of a systematic author. When he had mastered a theme which he thought very much worth while, he could write without great hesitation, though the discrimination of a synonym or the turn of a phrase might hang him up for an hour. But when his pattern included any task which struck him as perfunctory, his pen was paralyzed until further notice. The topic, perhaps, had been treated adequately by some prior author. Turner could not improve upon it, he would not repeat it, he could hardly bring himself to write a merely parallel account. He was in an impasse of his own making, a balk from which he could not budge without almost literally flogging himself. That he nearly completed before his death a systematic history of an American period may prove that he conquered in some degree his aversion to the needful elaboration of the known. We shall know when he promised publication comes.[3]

[3] *The United States, 1830–1850: The Nation and Its Sections*, with an introduction by Avery Craven (New York, Henry Holt & Co., 1935).

Turner's proclivity for jotting kept his pencil busy while students reported in seminar; and his frequent requests for citation were a feature of the sessions. He duly put his notes into the capacious drawers of his filing case for future use. The students were inspirited by the phenomenon, by the fact that the master, and such a master, found their substance not humdrum but so much worth while as to make his own record at second hand. This industry of his was quite ingenuous; but had it been pedagogically planned it could hardly have been more effective as a constant stimulus to research. The students had no fear of his exploiting their fruits; they knew that his own composition was painfully slow, that he had already far more material than he could ever use, that any pertinent part of his accumulation was theirs on occasion, that, in short, his contribution to them would eclipse theirs to him, and if perchance the event should prove otherwise, it was an honor to have given Turner a bit of good grist. Participation in the seminar gave a sense of heightened vitality.

Another part of the routine was a lecture course on the westward movement, to a hundred or more mingled college seniors and graduate students. Life was too crowded for Turner to prepare a lecture in advance or to think much about it. The striking of the hour would catch him unready. He scurried to the great filing case, grabbed a dozen folders containing a gallon of jottings, hurried up the long hill, plumped his load on the desk, and, half breathless, began in such wise as this: "As I hope you may remember more surely than I, at our last meeting we were discussing so and so. Today we proceed to such and such." Then a bit more patter of a sparring-for-time sort while he pawed through his folders in a hope to find some pertinent jotting. Perhaps he found it, more often he failed. The sequel in either case was much the same—a lecture planned only in the large, improvised in detail, a thinking aloud, somewhat rambling, suspended with an occasional "and so on", but usually cogent enough to warrant his faith in his ability to do while talking what a less expert speaker would not wisely attempt and a lecturer not steeped in his material could surely not accomplish.

In the classroom, thus, Turner had full courage of imperfection. On occasion indeed, he would preach to his acolytes a system of unsystem, somewhat like that of the backwoods preacher who said: "When I mount the pulpit I don't know what

I'm going to say; therefore the devil, not knowing what I'm to say, can't harden the hearts of the congregation against my words. I trust in the Lord to give me a message, and He hasn't failed me yet."

Sometimes Turner's rummaging while talking brought a success which was a failure. Perhaps it was a sheet of statistics which caught his eye. Statistics in quantity must of course thwart a lecture's purpose. They are data which belong in an appendix or perhaps a syllabus. Turner's passion for data supervened in such an instance. Part of the class labored to jot the figures as he read them; some sat idle; some pairs took refuge in unobtrustive tit-tat-too. The system of unsystem bogged in the slough till the lecturer began again to think aloud, whereupon a flashing succession of remarks was likely to compensate. Reversing the Italian vendor's plaint, "What I make on the potato I lose on the damn banan", what Turner lost in lack of preparation he made up in the freshness and sparkle of impromptu narrative, analysis, and generalization. The best performance was when his notes eluded him altogether. Giving up the search in the first few minutes, he faced the challenge of unsupported speech. Better had he left his notes always at the foot of the hill; but he couldn't abandon his data, and he didn't.

This was a fault of his virtues; and the virtues were so manifest that the fault was taken as negligible. Lack of preparation was not an evidence of indolence but of absorption in other matters which were more worth his precious while.

In the seminar, and in the study when reading any paper submitted for his comment, he was an elder student, alert as any youngster and zealous to promote each one's achievement. He wanted each to get a theme and a bent of his own, to devise a hypothesis on occasion, certainly not to take any ready-made pattern or to accept any doctrine as from authority. And when any youngster did a job which clicked or suggested a click, Turner's own affairs might go by the board. His pencil sped in suggestive annotation for clarification and enrichment. He had so great a relish in vicarious achievement that in a true sense he lived in the work of his pupils.

In so far as Turner held any doctrines, the students were free to discard them. "So much the better", he would say; "I hope to propagate inquiry, not to procure disciples." His hope was realized in extraordinary measure, as he knew; and the knowledge offset richly the chagrin of deficit in his own printed output. As a paradox which any teacher will comprehend, Turner's accretion of riches came through the squandering of them.

NEWS NOTES AND COMMENTS

BROWNE'S MONOGRAPH ON JEFFERSON

Readers of *Agricultural History* will find much of interest in C. A. Browne's monograph on "Thomas Jefferson and the Scientific Trends of His Time" which has been issued as *Chronica Botanica*, 8(3):361–424 (Summer 1944). It is a scholarly essay on Jefferson's position in the world of science, his "Notes on the State of Virginia," his scientific services, and his agricultural and educational work. The illustrations are largely reproductions of sketches in contemporary sources. Copies may be secured from Chronica Botanica Co., Waltham 54, Mass. The price is $1.25.

WESTERN RANGE CATTLE INDUSTRY STUDY

An extensive research study of the western range cattle industry is being undertaken by the State Historical Society of Colorado under a grant of $65,000 from the Rockefeller Foundation. This project, which is directed by Herbert O. Brayer, calls for the assembling of all existent documentary materials relating to the range cattle industry in the Rocky Mountain region embraced by the States of New Mexico, Colorado, Wyoming, and Montana and the preparation of a history of it with emphasis upon its economic and social aspects and its importance for the settlement and development of the intermountain area during 1865–1895.

THE CONCEPT OF THE FRONTIER, 1871–1898

Comments on a Select List of Source Documents

FULMER MOOD

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My essay on "Turner's Formative Period" in *The Early Writings of Frederick Jackson Turner* (Madison, 1938) includes the statement that, "After all, the Census scholars had anticipated him [Turner] in charting the course of the westward movement." This statement is elliptical, and by it I mean that the Census scholars had given the frontier concept a final *statistical* formulation which made it a useful entity in various departments of social research and investigation. They were the proximate formulators of the concept in its statistical form and employed it in various ways pertinent to their peculiar tasks. Turner took it over from them and applied it to his own special uses. There is thus the problem of the history of the frontier concept and the related but more restricted problem of Turner's employment of it. This dichotomy will be referred to later.

As to the second problem, the bibliography of Turner's writings by Everett E. Edwards in *The Early Writings of Frederick Jackson Turner* has so usefully cleared the road for investigators that they have but to decide on a topic upon which to expend their attention and then to set to work on it.

The larger problem—the frontier concept, its origins, development, and later clarification, etc.—has not yet been treated bibliographically. For some time past I have been investigating the history of this concept and can state that much of the research on what turned out to be an extensive project has been completed. Some of the results have already been synthesized, and the whole, it is thought, will amount to a fairly lengthy monograph when published. The primary basis of the work is, naturally, a bibliographical structure. From the many sources available, I here present a select list of titles with a view to assisting and promoting scientific research on the subject.

The source documents here described are of primary importance for the study of the frontier concept during the period, 1871–1898. The list is selective and propaedeutic; it is also genetic. That is to say, the items are arranged in an order which reveals the development of the concept. The investigator, if he chooses to study all of the documents listed and to use them in the order of their entry, can trace phase by phase the unfoldment of this significant idea, an idea with which historical scholarship in the United States, or so it is hazarded, will be occupied for some decades to come.

The comments appended to the several entries are for the most part brief. They have been drafted with a view to giving a hint or two, and no more, as to the nature or content of the sources or the location of the crucial passages in them. Where necessary, however, the comments touch on questions of dates of publication and authorships. Each investigator will, of course, extract from the documents what he sees of value in them for his own design. Lengthy comments or critical notes are, therefore, unnecessary.

SELECT LIST

1. U. S. Census Office, 9th Census, 1870, *Statistics of the Population. Advance Sheets.* Tables 1 to 4 inclusive . . . . Washington. Sept. 2, 1871.

Table 1 is entitled "Population of the United States, (by States and Territories,) in the Aggregate, and as White, Free Colored, Slave, Chinese, and Indian, at Each Census." It consists of six constituent parts, of which the initial one presents the aggregate population figures for the country from 1790 through 1870, arranged by States and Territories, at each census period. For the date of publication, see the U. S. Census Office, 9th Census, 1870, *The Statistics of the Population of the United States*, 1:vii (Washington, 1872).

2. Julius Erasmus Hilgard, "The Advance of Population in the United States," in *Scribner's Monthly* (New York), 4:214–218 (June 1872).

This article is based on Table 1 in the preceding document. The author was well versed in the mathematical theory of cartography. He distinguished between "the older countries of Europe" which possess "as to area occupied by population" what he characterized as "an almost stationary condition" and the country where "vast new areas

are continually being settled by a population drawn from the older states and largely reinforced by emigration from different nations of Europe." The problem of the mobility or the advance of the population is treated mathematically, and an original formula for the purpose is supplied. By its use, the location of the center of population for 1840, 1850, 1860, and 1870 is given on page 215. The article is illustrated by one map and one diagram, and the text is supported by a statistical table, derived from the preceding document.

3. U. S. Census Office, 9th Census, 1870, *The Statistics of the Population of the United States.* vol. 1. Washington, Government Printing Office. 1872.

This volume contains statistical tables, notably Table 1, previously described, and a series of maps showing the distribution and density of the aggregate population and its several elements, namely the colored, the foreign-born, the German, the Irish, the English, the Swedish and Norwegian, etc., in 1870. The map following page xlix is of the greatest importance for the study of the concept of the frontier, since it exhibits, though without instructive comment by the compilers, the very first representation of the frontier line.

The letter of transmittal of this volume from the Census Office to the Secretary of the Interior is dated August 24, 1872, and the volume was published on November 30, 1872 (U. S. Congress 43, Session 1, 1873–74, *House Executive Documents*, vol. 4, pt. 5, no. 1, p. 759).

4. Francis A. Walker, "The Indian Question," in the *North American Review* (Boston), 116:329–388 (April 1873).

This article grew out of the author's experience as Indian Commissioner which covered the period December 1, 1871–July 31, 1873. During his term of service, he traveled to the Platte Valley and there saw something of the West and its problems with his own eyes.

From this article, important for the study of the frontier concept, the following *locus classicus* is excerpted: "Since 1868, when the trans-continental railroad was completed, population has found its way into regions to which the rate of progress previously maintained would not in fifty years have carried it; into nooks and corners which five years ago were scarcely known to trappers and guides. Instead of exposing to Indian contact, as heretofore, a clearly defined frontier line, upon two or three *faces*, our settlements have penetrated the Western country in every direction, and from every direction, creeping along the course of every stream, seeking out every habitable valley, following up every indication of gold among the ravines and mountains, clinging around the reservations of the most formidable tribes, and even making lodgement at a hundred points on lands secured by treaty to the Indians. Even where the limit of settlement in any direction has apparently, for the time, been reached, we learn of some solitary ranchman or miner who has made his home still farther down the valley or up the mountain, far beyond sight or call. It is upon men thus exposed, without hope of escape or chance of resistance, that the first wrath of a general Indian war would break.... But it is not alone the solitary ranchmen who would be swept away on the first onset of Indian attack. Scores of valleys up which population has been steadily creeping would be instantly abandoned; streams that now, from source to mouth, resound the stroke of the pioneer's axe, would be left desolate on the first rumor of war; a hundred outlying settlements would disappear in a night, as the tidings of outbreak and massacre were borne along by hurrying fugitives. As the blood retreats, on the signal of danger, from the extremities to the heart, so would population retire, terror-struck and precipitate, from the frontier on the first shock of war." —p. 349–350.

This article was reprinted as the first chapter of Walker's book, *The Indian Question* (Boston, James R. Osgood & Co., 1874). The map in this volume is noteworthy.

5. Francis A. Walker, *Statistical Atlas of the United States Based on the Results of the Ninth Census 1870 with Contributions from Many Eminent Men of Science and Several Departments of the Government.* Compiled under authority of Congress by Francis A. Walker, M.A., Superintendent of the 9th Census, Professor of Political Economy and History, Sheffield Scientific School of Yale College. 54 pl. and text. [n.p.] Julius Bien, lith. 1874.

Of the documents in this list, this is pivotal and the most important. It explains the method of constructing the maps which show the distribution of the population of the United States. It provides a series of maps which exhibit the distribution and advance of the population, 1790 through 1870. It furnishes an accompanying text in which

the frontier lines, etc., of the several census years are adequately discussed.

Walker's essay, "The Progress of the Nation, 1790–1870," displays the growth and mobility of the population historically. In the discussion of the map for 1790, Walker stated that the length of the unbroken line from Maine to Georgia in that year was 3,200 miles and then added: ". . . I have carefully traced all the ins and outs of this 'line of population' which seem to indicate a distinct change of direction in the settlement of the country, for any cause, whether in progression or in retrogression." In the final paragraph of the same description, he again referred to the "line of population" as a possible term for the population phenomenon he was discussing.

Walker opened his description of the map for 1800 with a reference to "the line of population," and he set the term in quotation marks as though to indicate his selfconsciousness in using a new or not generally accepted term. The next sentence reads: "The advance of the frontier line in every direction, at this census, is too plainly shown upon the map to require to be pointed out in detail." This sentence is the first in which the term "frontier line" is used in relation to a map delineating the outer edge of the population of the United States. This term had, of course, previously been used countless times, but not in connection with statistical maps.

This essay by Walker is the fundamental source in the history of the frontier concept. It defined the concept in its last or statistical phase and applied it in a concrete way to a written discussion concerning the population of the United States, historically considered.

A word needs to be said about the authorship of the *Statistical Atlas* of 1874. Properly speaking, it does not form part of the Ninth Census reports. The Act of March 3, 1874 appropriated $30,000 for preparing, engraving, and printing 50 maps for the atlas (*U. S. Statutes at Large*, 17:536, Boston, 1873), and the Act of June 23, 1874 appropriated $3,000 for printing the text and binding the entire work (*U. S. Statutes at Large*, 18:208, Washington, 1875).

In August 1875, the atlas was awarded a medal of the first class (see Société de Géographie, Congrès International des Sciences Géographiques tenu à Paris . . ., *Compte Rendu des Séances*, 2:422, Paris, 1880). Daniel Coit Gilman, then in Paris, wrote to Walker of the award: "I heard, with great satisfaction, your name announced at the close of the Geographical Congress of Paris as a recipient of a medal of the First Class for your Statistical Atlas. It was a compliment well merited. . . ." (James Phinney Munroe, *A Life of Francis Amasa Walker*, p. 126, New York, 1923). Eventually the medal and diploma reached Washington, and the Secretary of State transmitted them to the Acting Secretary of the Interior, who, in turn, sent to Walker, then temporarily in Philadelphia, a copy of the letter from the Secretary of State together with one of his own dated May 11, 1876. In this he noted, among other things, that the medal was in his hands and raised the question whether it should be retained by the Department of the Interior as part of the records of the Census Office or passed to Walker. In his reply of May 26, 1876, Walker cited the action of the Congress of Geographers which recognized him as author of the atlas and pointed out that the House bill which became the Act of March 3, 1873 had provided that the atlas was to be compiled by him. For this correspondence, see the Department of the Interior Records, Miscellaneous Letters, Letter Book No. 9, in the National Archives. Walker eventually received his diploma and medal.

In 1905, the Library of Congress, in making its catalog card for the *Statistical Atlas*, chose to treat it as part of the Ninth Census reports, thus depriving Walker of the credit due him as author or compiler and thereby confusing the literary and the administrative history of the Ninth Census. The catalog card number is 5-19329†. The *Checklist of United States Public Documents, 1789–1909*, page 448 (Washington, 1911) followed the lead of the Library of Congress and treated the atlas as part of the census reports.

The bibliography of this *Statistical Atlas* merits brief attention. The work was published in two different forms: first, as a collection of unbound plates, with accompanying letterpress and portfolio covers; and later, as a bound volume. The unbound form was issued in three separate installments. First to be distributed to the public were the maps of Part 3. This material, consisting of the illustrations for the discussion of the vital statistics, was issued on July 18, 1874. The letterpress of this part was not then ready for issuance. Part 2, complete as to maps and charts, was given out on September 26, 1874. The letterpress of this part was also sent out later. Part 1 and all letterpress not hitherto issued were distributed before the close of the year. As noted above, a guardsheet or portfolio was prepared for the mate-

rials composing each part; on the outside of each guardsheet was printed the appropriate part number and designation or descriptive title. As published in this form, the contents of the work lacked serial pagination, since the piecemeal mode of feeding copy to the printer forbade this. This explanation is based on two "Announcement" slips dated July 18, 1874 and September 26, 1874, respectively, and both at New Haven, Connecticut, and signed by Walker. These slips were sent out with the unbound plates and letterpress. The Library of the University of California, Berkeley, has a set of the work in the form just described, including the two announcements. It is rare. In the bound form the *Statistical Atlas* was published seemingly in 1875, and probably early in that year, or as soon as the binders could manufacture covers for the plates and letterpress.

I have completed a short monograph on this atlas and expect to publish it in the near future.

6. Francis A. Walker, "Growth and Distribution of Population," in *Harper's Monthly* (New York), 51: 391–414 (August 1875).

The foundation of this popularly written account is the author's essay on the progress of the population, 1790–1870, in the *Statistical Atlas* of 1874, but in the present document he placed more emphasis upon the *history* of the American population, dividing this into the following periods: 1607–1660, 1660–1688, 1688–1754, 1754–1790, and 1790–1870. Referring to the royal proclamation of 1763, he wrote: "Thus the Alleghanies were set as the boundary of American enterprise; and the valleys of the Ohio and the Mississippi were to be locked against the intrusion of the pioneer. But little did the pioneer reck of proclamations. His axe and rifle were his patent, and, looking down on the richest soil of the world, he was not likely to be long hindered by minutes from the Board of Trade."—p. 398.

The account of the period 1790–1870 is based upon "The Progress of the Nation" (1874). Referring to the movement of the center of the population, or, as he rather grandly phrased it in words borrowed from an earlier writer, "the 'star of empire,' " he wrote: "the time has not yet come for it to stand in its place above any favored town or city in the land. Its course is still westward; and while we write it is pressing on with an equable motion of seventy or seventy-five feet a day in a direction generally west, but also slightly north." —p. 391. This was reducing the complex phenomena of the westward movement to precise statement indeed. The many values of this essay for the development of the frontier concept will become apparent on a reading of it.

Walker's essay, together with its 6 maps and 13 boxed tables, was reprinted in *The First Century of the Republic: A Review of American Progress*, pages 211–237 (New York, Harper & Bros., 1876).

7. John A. Doyle, *History of the United States.* With Maps Illustrative of the Acquisition of Territory and the Increase of Population, by Francis A. Walker, Professor of History and Political Economy in the Sheffield Scientific School of Yale College. 404 p., maps. New York, Henry Holt & Co. 1876.

This book, by a young English historian, issued at London (1875) under the editorship of Edward A. Freeman, was enriched by four maps planned and compiled by Walker as follows: 1, Map showing the acquisitions of territory by the United States, 1776–1868. 2, Map showing in four degrees of density the distribution of the population of the United States in 1790. 3, Map showing the same for the population in 1830. 4, Map showing the same for the population of 1870.

The importance of this document for the development of the concept of the frontier lies in the circumstance that in choosing to enrich this English historical work on American history by the series of population maps—each one delineating its proper frontier line—Walker demonstrated that he recognized the relevance of the maps for the history of American expansion, and that he, too, recognized the significance of the westward movement in American history.

The author, Doyle, had independently arrived at some of the essential conclusions concerning the American westward movement: "I have already said that the history of the United States is, in a great measure, the history of the process by which a small body of colonies on the Atlantic sea-board have spread towards the west. When that process is ended, it is possible that many of the peculiar features which distinguish America from the Old World will disappear. Hitherto land has been so abundant that the position of a tenant renting from a landlord has been almost unknown. But when the time comes that the unoccupied districts in the west have all been taken into cultivation, land may perhaps come to have the same value which it has in the Old World."—p. 386.

This American edition was reviewed by William

F. Allen of the University of Wisconsin in the *Nation* (New York), 22:296 (May 1876).

8. George Booth, "Frontier Folk," in the *International Review* (New York), 9:29–41 (July 1880).

This article provides a thoughtful discussion of the frontier as well as its folk. The author asserted that the term frontier "still has a geographical import, and another, deeper than the geographical, suggesting a peculiar civilization and a certain characteristic mode of life."—p. 29. The article was reprinted as a separate: New York, A. S. Barnes & Co., 1881.

9. U. S. Census Office, 10th Census, 1880, "The Settled Area in 1880," *Census Bulletin No. 269*. 5 p. Washington. Oct. 20, 1881.

This discussion is concentrated. It brings up to date certain categories of facts first stated in the *Statistical Atlas* of 1874, and it makes good use of the frontier concept. Although it is not signed, there can be little doubt concerning the authorship. It was planned and written for Walker, perhaps by him; he served as Superintendent of the Tenth Census from April 1, 1879 to November 3, 1881. The dates show that it was issued before he left the Census Office to return to his professorship at New Haven. This bulletin is an essential link in the chain of ideas here being traced.

10. Henry Gannett, "The Settled Area and the Density of Our Population," in the *International Review* (New York), 12:70–77 (January 1882).

The author of this article held the position of Geographer and Special Agent in the Census Office and was closely associated with Walker in the work of the Tenth Census. The article was founded on *Census Bulletin No. 269* (Oct. 20, 1881), but it expresses various propositions concerning the frontier concept that are not stated in the official census publications.

One excerpt, selected to indicate its important quality, is here given: "As population nowhere ceases abruptly, but shades off by almost imperceptible degrees, an arbitrary line must be drawn somewhere beyond which the country must be considered as unsettled, although it may not be absolutely without inhabitants. Such a line may be properly taken so as to exclude regions having less than two inhabitants to a square mile. All the country outside this line may fairly be considered as unsettled territory, peopled, if at all, by a few scattering hunters, prospectors and cattle herders." —p. 70.

Gannett declared that a figure for the average density of the United States had no meaning: "The average density of settlement of such a country as this, some parts of which are peopled as fully as the oldest settled parts of Europe, while great stretches, empires in extent, are as yet almost without inhabitants, means nothing. . . ."—p. 70.

11. U. S. Census Office, 10th Census, 1880, *Statistics of the Population of the United States at the Tenth Census (June 1, 1880)*. . . . vol. 1. Washington, Government Printing Office. 1883.

In this volume Walker was responsible for the letterpress and tables to and including those on page 375. There are included such principal topics as "Influence of the Physical Features upon the Distribution of Population" (p. xlii-lxxvii); "The Elements of the Population" (p. xxxiv–xli); and "The Progress of the Nation: 1790 to 1880" (p. xi–xxxiii). Under this last are found discussions on such subtopics as the settled area in 1880, vacant spaces on the map of population, the several frontiers at 1790, 1800, 1810, etc. The volume is richly supplied with pertinent maps. The date of the letter of transmittal is February 3, 1883.

12. *Scribner's Statistical Atlas of the United States Showing by Graphic Methods Their Present Condition and Their Political, Social and Industrial Development*. By Fletcher W. Hewes and Henry Gannett. cxx p., 151 pl. New York, Charles Scribner's Sons. c. 1883.

This large folio work contains a wealth of interesting and pertinent material in relation to the frontier concept. Some of this is letterpress, some cartographic. It is obviously a direct descendant of the *Statistical Atlas* of 1874 and is dedicated "by permission" to Francis A. Walker. Of the many features of this work to which attention could be directed, mention here will be made only of the essay on "Progress of Settlement" (p. xxxvii-xl) which continues the line of thought previously developed in the *Statistical Atlas* of 1874 and in the Census of 1880.

The Census of 1880 was conceived on a very liberal scale, and before all of the volumes planned for could be published, the appropriation ran out. Copy for a statistical atlas had been prepared by the Census Office, but the work was published by

the firm of Scribner as an unofficial and private venture (W. Stull Holt, *The Bureau of the Census*, p. 26, Washington, 1929). The subscription price of the compilation was $30.00, and it was out of print by 1896. On the title page the copyright date, not the publication date, is given. The *Publishers' Weekly* indicates that the volume was issued to the public on March 14, 1885.

13. U. S. Census Office, 11th Census, 1890, "Increase and Decrease of Population: 1880–1890," *Extra Census Bulletin No. 1.* 3 p., map. Washington. April 8, 1891.

Of the double map Superintendent Robert P. Porter wrote: "No map similar to this has ever been published by a federal census, and consequently there exists no basis for graphic comparison with previous censuses.... The study of this map, the first of the kind published by the Census Office, will, in fact, show the changes that have taken place in the population of a nation of 63,000,000 in a decade. The student of statistics will find much more in the map than the suggestions herewith submitted."

This map was not reproduced in the final *Report on Population: 1890* (Washington, 1895), although a map with the legend, "Map Showing Gain and Loss of Rural Population between 1880 and 1890," following page lxx bears many resemblances.

14. U. S. Census Office, 11th Census, 1890, "Distribution of Population According to Density: 1890," *Extra Census Bulletin No. 2.* 4 p., map. Washington. April 20, 1891.

It is this document that contains the now celebrated words announcing the end of the frontier line. The map with the legend, "Map Showing, in Six Degrees of Density, the Distribution of the Population of the United States at the Eleventh Census (1890) Compiled by Henry Gannett, Geographer," is especially noteworthy as it is the first map of the sort for 1890 to be published.

Robert P. Porter, Superintendent of Census, signed this bulletin and credited Gannett with the preparation of the tables and maps on which the letterpress is based. In my opinion, Gannett's part in the writing of the text could easily be conceived of as being greater than Porter acknowledged.

The importance of this document for the study of the frontier concept requires no further word. It needs, however, to be read as often as it is cited.

15. Francis A. Walker, "Growth and Distribution of Population in the United States," in the *Chautauquan* (Meadville, Pa.), 14:656–658 (March 1892).

The westward movement is discussed. The author observed that "The American migrations are, so far as I know, unique, in that they never awaited the day of repletion in the familiar seats of population."

16. U. S. Census Office, 11th Census, 1890, *Compendium of the Eleventh Census: 1890. Part 1, Population.* 957 p., maps. Washington, Government Printing Office. 1892.

This volume contains the usual discussion, brought up to date, on the "Progress of the Nation" (p. xxxv–cxxvii), including the statement that the frontier line was no more (p. xlviii). The Superintendent of Census, Robert P. Porter, stated in the volume (p. xxxiii) that "Mr. Henry Gannett, Geographer of the Tenth and Eleventh Censuses, has shared much of the responsible work with the present Superintendent of Census, as he did with General Francis A. Walker in 1880." One may hazard the guess that the verb "shared," in this connection, was employed as a delicate understatement. The date of the letter of transmittal of this volume is December 8, 1892.

17. Henry Gannett, "The Movements of Our Population," in the *National Geographic Magazine* (Washington), 5:21–44 (March 20, 1893).

This paper was read by the author to the membership of the National Geographic Society in Washington on December 9, 1892. Together with its maps and graphs, it forms a valuable supplement to *Extra Census Bulletin No. 2* (April 20, 1891).

18. U. S. Census Office, 11th Census, 1890, *Report on Population of the United States at the Eleventh Census: 1890.* Part 1. 968 p., maps. Washington, Government Printing Office. 1895.

This volume contains an essay on "Progress of the Nation, 1790 to 1890," by Robert P. Porter, Henry Gannett, and William C. Hunt (p. xi–ccv), of which pages xviii–xxxiv relate specifically to the distribution, etc., of the population. On page xxxiv the announcement of the end of the frontier appears.

A valuable feature of this document, especially for those not having convenient access to *Extra*

Census Bulletin No. 2 (April 20, 1891) is the "Map Showing in Six Degrees of Density, the Distribution of the Population . . . at the Eleventh Census 1890" which is tipped in between page xxviii and xxix. The date of the letter of transmittal of this volume is October 22, 1894.

19. Francis A. Walker, *The Making of the Nation, 1783–1817*. 314 p., maps. New York, Charles Scribner's Sons. 1895.

This work is a historical narrative and probably had its inception some years earlier when Walker was lecturing to the undergraduates at New Haven on United States history. Certain passages in this narrative demonstrate anew in an explicit manner Walker's belief in the importance of the expansionist movement during the period covered.

20. Henry Gannett, *Statistical Atlas of the United States, Based upon Results of the Eleventh Census*. 69 p., 63 pl. Washington, Government Printing Office. 1898.

The frontier, having passed into history, Gannett included a discussion of "Density of Population in Detail" on page 14.

CONCLUSIONS

Certain conclusions with reference to future research on the history of the concept of the frontier can be derived from the above list and comments. The existence of James Phinney Munroe's *A Life of Francis Amasa Walker* (New York, Henry Holt & Co., 1923) renders unnecessary any extensive work in the near future on that administrator and teacher. A biography of Henry Gannett now becomes a desideratum. At my instance, Helen M. Morison, of the University of California, has taken up this interesting task; she brings to it the requisite equipment in bibliography, cartography, and geography.

Reverting now to the second part of the dichotomy referred to in the introduction, I venture to suggest a number of useful topics for intending researchers interested in the Turner problem, restrictively considered. The intellectual relation between John Bascom and Turner should be interesting and may prove a valuable lead to work. The connections between Richard T. Ely and Turner need to be worked out. This will certainly yield some surprises to the researcher, ardent on the trail. Harvard and Wisconsin possess between them a goodly corpus of William F. Allen manuscripts. What these will reveal, when studied in relation to Turner's ideas, no one can guess with certainty. Before he was great in his own right, Turner was great in his pupilage, and he learned much from these three teachers, seminal men all of them: Allen, Bascom, and Ely.

After we of this decade understand what Turner meant to say or said, we still have the scientific obligation of asking if what he stated as propositions shall be received today as sound and true. The current controversy over the safety-valve doctrine, in my opinion, does not mark the end of an era but the opening of one. And when some day this particular question is settled and the proposition at issue is accepted as true or rejected as false, other statements in Turner's pages will be called up for questioning, and other scholars will go through the identical investigative process, testing these other particular assertions. Thus the future holds in reserve an indefinite number of controversies over Turner's teachings. He will take on a new quality of greatness by virtue of the scholarly disputes that he shall yet engender. Had the man written in obscurity, the world today could afford to ignore his safety-valve doctrine or any other doctrine associated with his name. But he wrote and influenced his tens and his scores, who, in their day, spread further abroad the primal teachings. Now these teachings are deeply entwined in the fabric of our historical scholarship. They enmesh and encompass us on all sides. To the extent that they are valid, the fabric will bear weight, and scrutiny, too; but if weak and false, then it is a fabric to be cast off.

Dissident voices may cry out their doubts about the wisdom of investigating such fundamental issues as the frontier concept. Some will prefer to continue with their textbook writing, conscienceless purveying to the defenseless general public the doctrine or interpretation that is now called into question and, till sustained by good proof, suspect. Others will prefer to start new hares in the race before they have finally tested the qualities of the old hare of the frontier.

If United States historians want to be entitled to common respect as men of science, let them by concerted attack and with reasonable celerity terminate this professional uncertainty in which we dwell. Let them for the time being leave off the compounding of textbooks and the cultivation of "new" approaches. Let them instead, concentrate on the main professional obligation of the times, namely the resolving of the frontier issue.

A POST MORTEM ON THE LABOR-SAFETY-VALVE THEORY

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Since 1935 there has been a growing suspicion among historians that the venerable theory of free land as a safety valve for industrial labor is dead. Out of respect for the departed one even the newer textbooks on American history have begun to maintain silence on the subject. For generations the hypothesis had such a remarkable vitality that a dwindling remnant of the old guard still profess that they observe some stirrings of life in the assumed cadaver. Consequently, it seems that the time has arrived for the reluctant pathologist to don his gas mask and, regardless of the memphitis, analyze the contents of the internal organs. Are the stirrings in the body an evidence of continued animation, or merely of gaseous and helminthic activity? Before the corpse is given a respectable burial this fact must be ascertained beyond any possible doubt.

There can be no question as to the venerable age of the decedent. Thomas Skidmore foretold him as early as 1829 in *The Rights of Man to Property!* George Henry Evans and his fellow agrarians of the 1840s labored often and long in eulogy of the virtues of the safety valve they were trying to bring into existence. The *Working Man's Advocate* of July 6, 1844, demanded the realization of "the right of the people to the soil" and said:

> That once effected, let an outlet be formed that will carry off our superabundant labor to the salubrious and fertile West. In those regions thousands, and tens of thousands, who are now languishing in hopeless poverty, will find a certain and a speedy independence. The labor market will be thus eased of the present distressing competition; and those who remain, as well as those who emigrate, will have the opportunity of realizing a comfortable living.[1]

Long before Frederick Jackson Turner tacitly admitted the validity of the theory,[2] even the name "safety valve" had become a middle-class aphorism. The idea was so old and so generally held that it was commonly repeated without question. The Republican Party had so long made political capital of the Homestead Act and its feeble accomplishments that the benefit to the industrial laborer had become an axiom of American thought. Turner, himself, made only incidental use of the theory as a further illustration of his general philosophy concerning the West. Apparently he made no effort to examine the basis of the safety-valve assumption. Had he done so, no doubt the theory would have been declared dead forty or fifty years ago, and the present autopsy would have been made unnecessary. It was some of the followers of Turner who made a fetish of the assumption, but in recent years few if any have gone so far as to say that Eastern laborers in large numbers actually succeeded as homesteaders.

The approach has been shifted. An early variation of the theme was that the West as a whole, if not free land alone, provided the safety valve.[3] This, as will be seen, was no more valid than the original theory. Another idea, sometimes expressed but apparently not yet reduced to a reasoned hypothesis, is that land, in its widest definition (that is, total natural resources), constituted a safety valve. This is merely one way of begging the question by proposing a new one. Besides, it is easy to demonstrate that as new natural resources were discovered the world population multiplied to take advantage of them and that the old problems were quickly transplanted to a new locality. It can readily be shown that the monopolization of these resources prevented their widest social utilization and that the pressure of labor difficulties was no less intense in new communities than in the old. Witness the Coeur d'Alene strike in Idaho in the same year as the Homestead strike in Pennsylvania. But the natural-resources-safety-valve theory will require a thorough statement and exposition by one of its adherents before an examination can be made. The manufacture of such a hypothesis will be a tough problem, in view of the fact that, ever since the development of the factory system in America, labor unrest has resulted in violently explosive strikes rather than a

[1] John R. Commons and others, eds., *A Documentary History of American Industrial Society*, 7:301 (Cleveland, 1910).

[2] Frederick Jackson Turner, *The Frontier in American History*, 259, 275 (New York, 1920).

[3] Joseph Schafer, "Was the West a Safety Valve for Labor?" *Mississippi Valley Historical Review*, 24:299–314 (1937).

gentle pop-off of steam through any supposed safety valve. The question will have to be answered: If any safety valve existed why did it not work? Since it did not work, how can it by any twist of the imagination be called a valve at all?

Another turn of the argument is a revival of the supposition of Carter Goodrich and Sol Davison (further expounded) that while no great number of industrial laborers became homesteaders, yet the safety valve existed, because it drained off the surplus of the Eastern farm population that otherwise would have gone to the cities for factory jobs. So, free land was a safety valve because it drew *potential* industrial labor to the West.[4]

Again, the question immediately arises: Why did this potential safety valve not work? Was it really a safety valve at all or was it merely a "whistle on a peanut roaster"? There can be no confusion of definitions involved. There is only one definition of the term: "An automatic escape or relief valve for a steam boiler, hydraulic system, etc." Under the catch-all "etc." one may just as well include "labor unrest." Obviously the safety valve is not for the benefit of the steam, water, or labor that escapes from the boiler, hydraulic system, or factory. It is to prevent the accumulation of pressure that might cause an explosion.

A safety valve is of use only when pressure reaches the danger point. This is where the trouble comes with the labor safety valve in all of its interpretations. It certainly was not working at the time of the Panic of 1837, or in the depression following the Panic of 1873, when over a million unemployed workmen paced the streets and knew that free lands were beyond their reach. It was rusted solid and immovable during the bloody railroad strikes of 1877 and the great labor upheaval of the 1880s. When the old-time Mississippi River steamboat captain "hung a nigger" on the arm of the safety valve when running a race, it can be positively asserted that his safety valve as such did not exist. This belief would doubtless be shared by the possible lone survivor picked maimed and scalded off a sycamore limb after the explosion.

No responsible person has ever tried to deny that at all times in America some few of the more fortunate laborers could and did take up land. But this seepage of steam which went on almost constantly did not prevent the pressure from rising when too much fuel was put under the boiler, and the seepage almost stopped entirely whenever the pressure got dangerously high. It was not till the 1830s, when the factory system in America began to bloom and the labor gangs were recruited for the building of canals and railroads, that any situation arose which would call for a safety valve. The shoemaker or carpenter of colonial days who turned to farming did not do so as a release from an ironclad wage system, as millions between 1830 and 1900 would have liked to do if they could. It was an era of slipshod economy and easy readjustment, where no great obstacle was put in the way of misfits. Even if one admits that a scarcity of free labor for hire was one of the minor reasons for the late development of a factory system, and that the choice of close and cheap land kept down the supply, yet a far greater reason was the scarcity of manufacturing capital. When the factory system began, it was easy to import shiploads of immigrant laborers. The same could have been done a generation or two earlier if there had been the demand.

But perhaps a more substantial argument is needed to answer so attractive a hypothesis as that of the potential safety valve. At first glance this new idea has some charm. Certainly the Western farms did not create their own population by spontaneous generation. If not Eastern industrial laborers, then undoubtedly Eastern farmers must have supplied the initial impulse, and each Eastern farmer who went west drained the Eastern potential labor market by one. But the question is: Did *all* the migration from East to West amount to enough to constitute a safety valve for Eastern labor? Did not the promise of free land, and such migration as actually occurred, simply lure millions of Europeans to American shores, seeking farms or industrial jobs, the bulk of the newcomers remaining in the East to make possible a worse labor congestion than would have existed if everything west of the Mississippi River had been nonexistent? The answer is so simple that it can be evolved from census data alone. The post mortem can now be held. If a sufficient domestic migration did take place with the desired results, then there *was* a safety valve, and there is no corpse of a theory to examine. If not, then the theory is dead and the body can be laid to rest.

The first question to be answered is: How large a

[4] Edward Everett Dale, "Memories of Frederick Jackson Turner," *Mississippi Valley Historical Review*, 30:356 (1943). See also Carter Goodrich and Sol Davison, "The Wage-Earner in the Westward Movement," *Political Science Quarterly*, 51:115 (1936), where the expression "*potential* wage-earners" is first, or at least previously, used.

surplus of farm population developed and where did it settle between 1860 (just before the Homestead Act) and 1900 (by which date the last gasp of steam is admitted to have escaped from the safety valve)? Here close estimates must substitute for an actual count, for before 1920 the census did not distinguish between actual farm and nonfarm residence. But the census officials did gather and publish figures on the numbers of persons employed for gain in the different occupations, and, wherever comparisons can be made, it is noticeable that the ratio of farm workers to all other persons receiving incomes has always been relatively close to the ratio between total farm and nonfarm population. On this basis of calculation (the only one available and accurate enough for all ordinary needs), in forty years the farm population only expanded from 19,000,000 to 28,000,000, while the nonfarm element grew from somewhat over 12,000,000 to 48,000,000, or almost fourfold. Villages, towns, and cities gained about 18,000,000 above the average rate of growth for the Nation as a whole, while the farm increase lagged by the same amount below the average. These figures are derived from a careful analytical study of occupations, based on census reports, which shows the number of income receivers engaged in agriculture creeping from 6,287,000 to 10,699,000, while those in nonfarm occupations soared from 4,244,000 to 18,374,000.[5]

Small as was the growth of agricultural population, it must be noted further that over 35 percent of the farms in 1900 were tenant-operated,[6] and 43 percent of all farm-income receivers were wage laborers.[7] This leaves only 22 percent as owner operators. But even though 25 percent is conceded, this would allow only 7,000,000 people in 1900 living on farms owned by their families, except for some sons who were also wage laborers or tenants. But the total national population increase was nearly 45,000,000 in forty years. Though the zealot may choose to ignore the fact that at least *some* of the farm workers owned their own land even in 1860 and may accept the figure for 1900 as growth alone, yet he has put but a small fraction of the increased population of the United States on such farms anywhere in the Nation, and hardly enough to consider in the West. This is not the way safety valves are constructed.

A further analysis of the data reveals that only 3,653,000 farms in 1900 were operated, even in part, by their owners. But at the same time at least 21,000,000 farm people were tenants and wage laborers and their families on the total of 5,737,000 farms in the Nation.[8] These laborers were rarely any better off financially (often worse) than the toiling multitudes in the cities. These were not persons who had found release either from the farms or the cities of the East on land of their own in the West. The bulk of them were still east of the Mississippi River. These were not *potential* competitors of the city workers. They were *actual* competitors, for the hard living conditions of each group had a depressing effect on the economic status of the other. Neither element had the opportunity, the finances, the experience, or the heart to try their luck in the West.

These incontestable facts and figures play havoc with the assumption that "perhaps most" of the Eastern boys who left their "ancestral acres" migrated "to the West to acquire and develop a tract of virgin soil."[9] There just was not that much of an increase in the number of farms between 1860 and 1900. Only 3,737,000 units were added to the 2,000,000 of the earlier year, and 2,000,000 of the total in 1900 were tenant-operated.[10] How large a proportion of the Eastern boys who left their fathers' farms could have become by any possibility the owners of the fraction of the increase in farms that lay in the West?

Here the potential-safety-valve advocates spoil their own argument. One of them stresses the great fecundity of Eastern farmers, "a dozen children being hardly exceptional."[11] At only the average rate of breeding for the whole Nation, the 19,000,000 farm population of 1860, with their descendants and immigrant additions, would have numbered about 46,000,000 by 1900. But barely 60 percent of that number were on farms anywhere in the country at the later date, and only 7,000,000 could have been on farms owned by themselves or their families. If farmers were as philoprogenitive as just quoted, then by 1900 the number of persons

[5] P. K. Whelpton, "Occupational Groups in the United States, 1820–1920," American Statistical Association, *Journal*, 21:339–340 (1926).

[6] U. S. Bureau of Foreign and Domestic Commerce, *Statistical Abstract of the United States*, 1931, p. 647.

[7] George K. Holmes, "Supply of Farm Labor," U. S. Dept. of Agriculture, Bureau of Statistics, *Bulletin 94*, p. 14–15 (Washington, 1912).

[8] *Statistical Abstract*, 1931, p. 647.

[9] Dale, "Memories of F. J. Turner," 356.

[10] U. S. Census Office, Eighth Census, 1860, *Agriculture*, 222; *Statistical Abstract*, 1931, p. 647.

[11] Dale, "Memories of F. J. Turner," 356.

of farm ancestry must have been closer to 60,000,000 than 46,000,000, and the increase alone would amount to at least 40,000,000. But the growth of farm population was only 9,000,000, and, of these, little more than 2,000,000 could have been on farms owned by their families. If it could be assumed that all the augmentation in farm population had been by migrating native farmers, by 1900 there would have been 31,000,000 of farm background (as of 1860) residing in the villages, towns, and cities; 9,000,000 would have been on new farms or subdivisions of old ones; of these, nearly 7,000,000 would have been tenants or hired laborers and their families, depressing industrial labor by their threat of competition; and about 2,000,000 would have been on their own farms, whether "virgin soil" of the West or marginal tracts in the East. But it would be taking advantage of the opponent's slip of the pen to trace this phantasy further. The law of averages is enough in itself to annihilate the safety valvers' contention. By the use of this conservative tool alone it will be realized that at least twenty farmers moved to town for each industrial laborer who moved to the land, and ten sons of farmers went to the city for each one who became the owner of a new farm anywhere in the Nation.

As to the farms west of the Mississippi River, it is well known that many of them were settled by aliens (witness the West North Central States with their large numbers of Scandinavians). Here is a theme that might well be expanded. The latest exponent of the potential-labor-safety-valve theory declares that "potential labor was drained out of the country, and to secure it for his fast expanding industrial enterprise, the manufacturer must import labor from Europe."[12] Anyone must admit that a fraction of the surplus farm labor of the East went on new farms. But how does this additional immigrant stream into the cities affect the safety valve? The immigrants may not really have increased the industrial population. It has often been contended that, instead, the resulting competition restricted the native birth rate in equal proportion to the numbers of the newcomers. Apparently this must remain in the realm of speculation. Be this as it may, the immigrants, with their background of cheap living, acted as a drag on wages, thus making the lot of the city laborer all the harder. This is not the way that even a *potential* safety valve should work.

[12] *Ibid.*

But, returning to the West, there is a further fact to be considered. The total population west of the Mississippi River in 1860 was about 4,500,000. In 1900 it was just under 21,000,000.[13] Surely the "fecund" Westerners must have multiplied their own stock to about 12,000,000 by the latter date. In the same forty years some 14,000,000 immigrants came to America.[14] By 1900, with their descendants, they must have numbered half again as many, or 21,000,000, for it has not been contended that immigrant competition lowered the immigrant birth rate. On this point the census data are not altogether satisfying. Foreign-born persons and their American-born children (counting only half of the children of mixed American and alien parentage) numbered 23,673,000. No doubt the survivors of the foreign-born counted in the Census of 1860, together with their later children, would reduce the alien accretion since 1860 to the 21,000,000 estimate. If anyone can prove that this should be cut still a few more million, he will not greatly change the estimates that follow.

The Western States, in proportion to their total population, had proved amazingly attractive to the immigrants. Though over 19,087,000 of the 1900 count (including those with only one foreign-born parent) lived east of the Mississippi River, 7,112,000 were in the States (including Louisiana and Minnesota) to the west of the same line. In the eleven Mountain and Pacific States they were 47.6 percent of the total population, the figure reaching 61.2 in Utah, 57.3 in Montana, and 54.9 in California. Nevada also had a majority. Kansas and Missouri alone of the West North Central group had less than 40 percent of alien parentage, while the percentage in North Dakota was 77.5, in Minnesota 74.9, and in South Dakota 61.1. In round numbers Minnesota had 1,312,000, Iowa 958,000, California 815,000, Missouri 741,000, Nebraska 503,000, Texas 472,000, and Kansas 403,000. Aside from Texas the numbers, as well as the percentages, in the West South Central States were low.[15]

In 1860 the trans-Mississippi West contained 653,000 persons of foreign birth,[16] but the number of their American-born children was not given. Even if the survivors and the children numbered

[13] *Statistical Abstract*, 1931, p. 8–9.

[14] *Ibid.*, 95.

[15] Twelfth Census, 1900, *Population*, 1:clxxxii.

[16] Eighth Census, 1860, *Population*, 623.

over a million, by 1900 those twenty-two States still had 6,000,000 of post-1860 immigrant stock. If the estimate for the increase of the pre-1860 element is too low, so, it can be countered, were the totals of the Census of 1900. Grandchildren were not counted, and mature immigrants of the 1860s could have had a lot of grandchildren by 1900. All the descendants of the pre-1860 immigrants were included in the estimate of 12,000,000 for the increase of the inhabitants of 1860, whereas all after the first descent are excluded from the post-1860 immigrant posterity. On the other hand let it be conceded that 12,000,000 by internal expansion and 6,000,000 by immigration, or 18,000,000 in all, is too much. This would leave only 3,000,000 of the West in 1900, or one-seventh of the total, accounted for by migration from the Eastern States. The calculator can afford to be generous. Subtract two million from the internal expansion and another million from the alien stock, and add these to the migrants from the Eastern States. Suppose, then, that 6,000,000 of the West's population of 1900 was of pre-1860 Eastern United States origin, and three times that many foreigners and their children had come into the East to replace them. It all simmers down to the fact that the West acted as a lure to prospective European immigrants, either to take up lands, to occupy vacated city jobs, or to supply the demands of a growing industry. In any case the effect was just exactly the opposite of a safety valve, actual or potential.

Now the question is in order as to how many of those Eastern boys who left their "ancestral acres" and migrated "to the West" actually were able "to acquire and develop a tract of virgin soil." As will soon be demonstrated, only 47.1 percent of the Western population of 1900 lived on farms. By the same ratio, a mere 2,826,000 of the exaggerated number of the Eastern stock (as listed above) were farm residents. There were barely more than 2,000,000 farms west of the Mississippi in 1900.[17] If two-sevenths of the population was Eastern in origin, it may be assumed that the same proportion of the farming was done by them. This would give them less than 572,000 units to operate as owners, managers, tenants, or hired laborers. But in the West, as in the Nation as a whole, the ratio of tenants and hired laborers to all farmers was very high. A full 35 percent of all Western farms were occupied by tenants. The high ratio in the West South Central region affects the average for all somewhat, but there were several other States that approximated the worst conditions. The percentage in Nebraska was 35.5, in Kansas 33.9, in Iowa 33.6, in Missouri 30.6, and in South Dakota 21.9.[18] But, also, slightly over 40 percent of all Western farm-income receivers were wage laborers.[19] If these same ratios apply to total population on the farms, then well over 1,130,000 of the Eastern element in the West were wage laborers' families; more than 989,000 were on tenant holdings; and less than 707,000 occupied farms owned by themselves. This means that there was only one person on such a family possession for each twenty-five who left the farms of the Nation in the preceding forty years. But perhaps this number is a little too small. No doubt a good number of the hired laborers were also the sons of the owners. Also, though many of the wage workers in the West lived with their families in separate huts on the farms, another considerable number were single men (or detached from their families) who boarded with the owner. How much this situation affected the given figures is uncertain. But here is something more substantial. Only 65 percent of the farms, or less than 372,000 in all, were owner-operated. Here, then, is the number of those tracts of "virgin soil" taken up and kept—one for each forty-eight persons who left their "ancestral acres" in the East, or possibly one family farm for each ten families. What a showing for the potential safety valve!

One point remains: Urban development in its relation to safety-valve theories. Between 1790 and 1860 the percentage of persons in cities of 8,000 or more inhabitants grew from 3.3 to 16.1; the number of such places from 6 to 141; and their population from 131,000 to 5,000,000. Over half of this growth took place after 1840. The city was already draining the country. But this was only the curtain raiser for the act to follow. In the next forty years the number of cities was multiplied to 547, their inhabitants to 25,000,000, and their percentage of the total population to 32.9. They had grown more than twice as fast as the Nation at large.[20] The same rule applies to all municipalities of 2,500 and over, as their population expanded from 6,500,000 to 30,400,000.[21] The cities may have bred pestilence, poverty, crime,

[17] *Statistical Abstract*, 1931, p. 646.

[18] Twelfth Census, 1900, *Agriculture*, 1: lxix.

[19] Holmes, "Supply of Farm Labor," 17, 19.

[20] *Statistical Abstract*, 1941, p. 6.

[21] U. S. National Resources Committee, *Population Statistics: 3, Urban Data*, 8 (Washington, 1937).

and corruption, but there is no evidence that they bred population that rapidly. Immigration alone cannot explain the phenomenon, for, if the entire number of immigrants after 1860 is substracted from the nonfarm population of 1900, the remainder still represents twice the rate of growth of farm population.

It is conceded that the bulk of the immigrants settled in urban localities, and it has been demonstrated that the great bulk of the surplus of farm population did the same. For that matter, outside the Cotton Belt, the majority of the westward-moving population did not settle on farms. When the Eastern city laborer managed to pay his fare or "ride the rods" westward, he, like the migrating farmer, was likely to establish himself in a mining camp, town, or city, where, as in the Coeur d'Alene region of Idaho, he found that he had exchanged drudgery in an Eastern factory for equally ill-paid drudgery (considering living costs) in a Western factory or mine. The urbanized proportion of the population west of the Mississippi River, where 1,725,000 new farms had been created,[22] very nearly kept pace with the national average. In 1900, when almost half (47.1 percent) of America's people were living in incorporated towns and cities, the ratio west of the Mississippi River was over three-eighths (38.1 percent). Minnesota exceeded, while Missouri, Iowa, and Nebraska nearly equaled the national ratio. The combined eleven Mountain and Pacific States rated even higher than Minnesota, with 50.6 percent of their population in incorporated places. It was only the Dakotas and the West South Central States that were so overwhelmingly rural as to keep the trans-Mississippi West below the national ratio.[23] On the basis of the gainfully employed, always a better measure, the West showed a still higher proportion of nonfarm population. The census figures for 1870, 1890, and 1900 are used in the accompanying table to illustrate this point.[24]

In each decade, the Far-Western regions were well below the national ratio of agricultural to town and city labor, and to 1890 they were far below. In 1870, outside the West South Central States and Iowa, the figure averaged 44.3 percent for seventeen Western States compared with 47.4 percent for the United States. In the next twenty years, when free land was presumed to be the greatest lure of the West, the towns gained on the farms till the latter included only 46.5 percent of the Western total in spite of the still preponderantly rural character of the West South Central division. Then in 1890, according to the legend, the gate to free land flew shut with a bang, and the urban-labor safety valve rusted tight forever. Yet, the increase in agricultural population in the next ten years was nearly a fourth larger than the average for the preceding decades. Whereas the city had been draining labor from the farm before 1890, now that the theoretical safety valve was gone the Western farm was gaining on the Western city. Good land—free, cheap, or at speculators' prices—undoubtedly was more abundant before 1890 than afterward. Before that date, without cavil, this land had helped keep down *rural* discontent and unrest. A small percentage of surplus farmers, and a few other discontented ones in periods of hard times, had been able to go west and take up new farms, but many times that number had sought refuges, however tenuous, in the cities. Whether this cityward migration left the more intelligent and energetic or the duller and more indolent back on the farm is relatively immaterial

Persons Ten Years of Age and Over Gainfully Employed in the West, 1870, 1890, and 1900

Area	1870			1890			1900		
	Total *Thousands*	Agriculture *Thousands*	*Percent*	Total *Thousands*	Agriculture *Thousands*	*Percent*	Total *Thousands*	Agriculture *Thousands*	*Percent*
United States.....	12,506	5,922	47.4	22,736	8,466	37.2	29,286	10,438	35.7
Trans-Miss. West.....	2,199	1,170	53.2	5,811	2,703	46.5	7,717	3,642	47.1
W. N. Central.....	1,157	648	56.0	2,988	1,432	47.9	3,693	1,707	46.2
W. S. Central.....	628	417	66.4	1,487	933	62.7	2,322	1,472	63.4
Mountain.....	134	50	29.9	501	127	25.3	663	192	28.8
Pacific.....	280	65	23.2	836	212	25.4	1,039	271	26.1

[22] There were 319,335 farms in the West in 1860, out of a national total of 2,044,077. Ninth Census, 1870, *Wealth and Industry*, 340.

[23] Twelfth Census, 1900, *Population*, 1:lxii.

[24] Calculated from Ninth Census, 1870, *Population and Social Statistics*, 670–671; Eleventh Census, 1890, *Population*, 2:306–337; Twelfth Census, 1900, *Population*, 2:cxxxv.

so far as the release of pressure is concerned. Such evidence as has been uncovered shows no decided weight one way or the other.

This much is certain. The industrial labor troubles of the 1870s and 1880s, when this *potential* safety valve was supposed to be working, were among the most violent ever experienced in the Nation's history. Steam escaped by explosion and not through a safety valve of free land. On the other hand, down to 1890 the flow of excess farmers to the industrial centers was incessant and accelerated. When hard times settled down on the farms of the Middle West, as in the 1870s, Grangers could organize, antimonopoly parties arise, and greenbackers flourish; but the pressure was eased largely by the flow of excess population to the towns. No doubt the migrants would have done better to stay at home and create an explosion. Instead, they went to town to add to the explosive force there. Farm agitation died down when a few reforms were secured, and the continued cityward movement retarded its revival.

However, after 1890 this release for rural discontent began to fail. The cities were approaching a static condition and were losing their attraction for farmers. This condition continued until between 1930 and 1940 there was virtually no net shift of population between town and country.[25] In the 1890s when the city safety valve for rural discontent was beginning to fail, the baffled farmer was at bay. Drought in the farther West and congestion in the cities left him no direction to go. He must stay on his freehold or tenant farm and fight. Populism in the 1890s was not to be as easily diverted or sidetracked by feeble concessions as had been Grangerism in the 1870s. In the forty years after 1890, the farmers, balked increasingly in their cityward yearnings, began to take far greater risks than ever before in their efforts to conquer the arid regions. Four times as much land was homesteaded as in the preceding decades.[26] Great things were accomplished in the way of irrigation and dry farming; but also great distress was encountered, great dust bowls were created, and great national problems of farm relief were fostered.

[25] *Statistical Abstract*, 1941, p. 671.
[26] *Ibid.*, 1931, p. 134.

Generalization alone does not establish a thesis, but already there is a substantial body of facts to support an argument for the city safety valve for rural discontent. Nevertheless old stereotypes of thought die hard. Quite often they expire only with their devotees. It has been proved time after time that since 1880, at least, the old idea of the agricultural ladder has worked in reverse. Instead of tenancy being a ladder up which workers could climb to farm ownership, in reality the freeholder more often climbed down the ladder to tenancy. Yet there are people in abundance who still nourish the illusion that their old friend remains alive. There is no reason for assuming that in the present instance the truth will be any more welcome than it has proved to be in the past. There never was a free-land or even a Western safety valve for industrial labor. There never was one even of the potential sort. So far did such a valve fail to exist that the exact opposite is seen. The rapid growth of industry and commerce in the cities provided a release from surplus farm population. The safety valve that actually existed worked in entirely the opposite direction from the one so often extolled. Perhaps the growth of urban economy also, on occasion, was rapid and smooth enough to absorb most of the growing population without explosive effect. Once the people concentrated in the cities, there was no safety valve whatever that could prevent violent eruptions in depression periods. Of this, the diehards also will remain unconvinced. The persons who mournfully sing that "The old gray mare, she ain't what she used to be" seldom are ready to admit that she never did amount to much.

The post mortem on the theory of a free-land safety valve for industrial labor is at an end. For a century it was fed on nothing more sustaining than unsupported rationalization. Its ethereal body was able to survive on this slender nourishment as long as the supply lasted. But when the food was diluted to a "potential" consistency, it was no longer strong enough to maintain life. Death came from inanition. The body may now be sealed in its coffin and laid to rest. Let those who will consult the spirit rappers to bring forth its ghost.

NEWS NOTES AND COMMENTS

CHARLES J. BRAND HONORED

Charles J. Brand, a life member of the Agricultural History Society, received the decoration of Commander of the Order of Merit of the Republic of Chile at a luncheon tendered by the Ambassador of Chile, His Excellency, Marcial Mora, in Washington on October 19, 1944. In conferring the decoration, the Ambassador cited Brand's long service to agriculture as a scientist and executive in the U. S. Department of Agriculture and as executive secretary and treasurer of the National Fertilizer Association. For details, see the *Fertilizer Review*, 19(4):8–9 (1944).

G. N. LAUMAN, 1874–1944

George Nieman Lauman, professor of rural economy, emeritus, died at his home in Ithaca, New York, on November 1, 1944. He had retired from active duties in 1942, after having served on the faculty of the College of Arts and Sciences for 30 years and on the faculties of the College of Agriculture and of Cornell University for 43 years.

Professor Lauman was born in Pittsburgh, Pennsylvania, on February 15, 1874. Following graduation from high school, he worked for 2 years in an architect's office and then went to Ithaca where he prepared at the Cascadilla School for entrance to Cornell. There he elected to take an agricultural course because of the opportunity that it offered for obtaining an education in the sciences. He was graduated in 1897 from the newly established College of Agriculture with the degree of B.S.A.

Having shown a predilection for horticulture, Lauman became an assistant in that work, and in 1899 an instructor. In 1902, his duties were broadened to include agriculture as well as horticulture. These interests bore literary fruit in the form of collaborations with and other assistance given Dean Liberty Hyde Bailey in the preparation of the *Cyclopedia of American Agriculture* and the *Cyclopedia of American Horticulture*.

The young teacher, however, became increasingly interested in the economic and social problems of agriculture then only beginning to be studied. In the school year 1899–1900, he gave the first course in the history of agriculture offered in the United States. Two years later, he taught the economics of agriculture. In 1903 came official recognition of the new field, and this pioneer worker was made an instructor in rural economy. That year farm accounting was added to his offering of courses. In 1904–05, he broke new ground again by teaching one of the early courses in rural sociology.

Promotion to assistant professor of rural economy came in 1905, and to professor in 1909. He served as head of the Department of Rural Economy from its inception until that unit was combined with the Department of Farm Management. In 1913, he was an official delegate from New York on the American Commission on Agricultural Cooperation and Rural Credit in Europe. Service on this commission required travel abroad and visits to many institutions, duties that doubtless appealed to Professor Lauman, for he had already been to Europe and was to go again after the conclusion of the work. From 1903 to 1910, while advancing in the field of his permanent interest, Professor Lauman served as secretary of the faculty of the College of Agriculture.

Although Professor Lauman gave attention to the subdivisions of rural economy in which he taught classes, his chief interest was the history of agriculture. On that subject he gathered extensive materials for study from European as well as from American sources and became a recognized authority. He was a charter member of the Agricultural History Society and was honored by election to its vice presidency for the year 1935–36.

In Professor Lauman's thinking, a catholicity of outlook was deepened by the long perspective of the past. Accuracy was ever his watchword as he worked out the intricate patterns of rural economic problems past and present. But to be accurate, in his opinion, not only must the surrounding circumstances of an event or issue studied be known and evaluated, but also their past must be explained. His emphasis was always on what he regarded as matters of importance to the scholar. In this sturdy individualist, gentleness and humor were blended with understanding. He was in personal relations the soul of courtesy, consideration, and honor. [This statement is adapted from a minute prepared by a faculty committee of Cornell University.]

FACTORS INFLUENCING THE DISTRIBUTION OF THE GERMAN PIONEER POPULATION IN MINNESOTA

HILDEGARD BINDER JOHNSON

Delineation of the factors influencing the geographical distribution of the immigrant groups in the United States is essential for understanding the country's sectionalism and regionalism.[1] Natural conditions usually explain the divergent economic activities of the various regions. There is not, however, a similarly obvious explanation for the concentration of immigrant groups in particular areas or for the preferences of a large number of individual settlers of the same nationality for uniform or similar types of location. The factors influencing distribution of the immigrants are to be found in their qualifications as farmers and in their social characteristics.[2] In order to ascertain these factors, careful and detailed studies of small geographical units are necessary, and it is believed, therefore, that this study of German settlements in Minnesota during its pioneer period will contribute appreciably to an understanding of immigrant distribution.

Several generalizations have been made with respect to the Germans as pioneer rural settlers in the United States. Probably the most frequent are the following: The Germans were not frontiersmen who liked to settle in the wilderness; the German farmers instinctively selected good soil; and the Germans—like other European immigrants—preferred to settle where the landscape and climate were similar to those of their homeland.

The first generalization may be based either on statements in the literature of the German pioneers or on intensive studies of specific counties such as those by Joseph Schafer for Wisconsin.[3] A strong contradiction is indicated in a study by Max Hannemann who considered it "significant that the Germans happened to be in considerable numbers at many places in the foremost line. The old frontier spirit which animated Germanity in the Atlantic States as early as in the eighteenth century also characterized the later development in the Middle and Far West . . . ."[4]

The view that the Germans instinctively selected good soil is probably based on the recognition that present-day farmers of German descent frequently own farms with good soil. With the exception of Blue Earth County, none of the counties in Minnesota covered by soil surveys shows a generally significant proportion of German rural pioneers or a concentration of them in one of the townships. Since soil surveys have usually been made where they are most urgently needed, *i.e.*, in counties where there are soil problems, it may be said that the German farmers in Minnesota are found on good soils. However, although good soil may have been the reason for the original settling, it also may be the result of thrifty farming, such as early use of fertilizers and rotation of

[1] The author is indebted to the Social Science Research Council for a grant-in-aid in 1941 to study German immigration in Minnesota.

[2] "In the history of immigration no subject is more important than that of the process of distribution. Not only did it determine the permanent location of races, but its methods have been agents of Americanization and its phases have marked eras in national development." Marcus L. Hansen, "The History of American Immigration as a Field for Research," *American Historical Review*, 32:503 (1927).

[3] John A. Hawgood, *The Tragedy of German-America*, 23–26 (New York and London, 1940), enumerates a number of sources for this generalization: "Observers, both German and non-German, often commented on the German immigrant's weakness for the amenities of civilization, on his cautiousness in locating near to established markets, on his refusal to speculate in land or to gamble on the future of a district, on his preference for partly developed to virgin land, for settlement. . . .A combination of such characteristics could not but prevent him from having a place on the furthest frontier. . . .the nineteenth century German immigrant was not essentially, whether by choice or by circumstance, a pioneer." For Joseph Schafer's study, see "The Yankee and Teuton in Wisconsin," *Wisconsin Magazine of History*, 6:125–145, 261–279, 386–402, 7:3–19, 148–171 (1922–1923).

[4] Max Hannemann, *Das Deutschtum in den Vereinigten Staaten; Seine Verbreitung und Entwicklung seit der Mitte des 19 Jahrhunderts* (Petermanns Mitteilungen, *Ergänzungsheft 224*), 53 (Gotha, 1936). The study is based on published census data for counties and States, and the findings are so general that they characterize the population movement of the Middle West as a whole rather than that of German immigrants. His maps are on so large a scale that they are misleading.

crops, for a generation or more. Moreover, the soils were generally good in the area of the State settled during the pioneer period so that they can hardly be considered the decisive factor that attracted German pioneers to particular communities.

The belief that immigrants were eager to select farmsteads in a countryside similar to their homeland found expression in the German immigration pamphlets on Minnesota. "Where the nature of the land is hostile to the arriving immigrant he will never be at home.... Our Minnesota receives annually thousands of German immigrants from the States of Illinois, Indiana, and Missouri ... here ... they find again and greet with joy the nature of their home country.... Go to the country the nature of which agrees with the German temperament."[5] It is true that German and Scandinavian immigrants settled mainly in the northern part of the United States, but a large number of Germans also settled in Texas and Missouri during the nineteenth century. Peculiar historical factors explain these settlements but not the general assumption that "the nature of the land" reminded the Germans of their home country.[6] North European immigrants avoided the slaveholding South, not because of climate and other natural conditions, but chiefly because of economic conditions. Furthermore, it is difficult to say which American countryside would have reminded a German of his homeland, for he may have lived in mountainous Bavaria, in hilly Württemberg, on the plains of Prussia, in heavily-forested and lake-dotted East Prussia, or in the marshland of Friesia.[7] The theory that European immigrants sought reminiscent surroundings in America does not explain the Norwegian settlements on treeless land. O. E. Rølvaag's *Giants in the Earth* describes the terrible psychological reaction of many Norwegians to this sort of landscape. There is no comparable literary masterpiece describing the experiences of German pioneers in the Middle West, but manuscript immigrant letters and many books by German-Americans during the nineteenth century contain bitter words about the hardships in a vast land so radically different from the country which they had left. The fact that the three generalizations are not universally applicable does not mean that no German settlers were attracted by scenery reminiscent of the old homes, by good soils, or by developed land not directly on the frontier.

In this study of the different factors causing and conditioning the distribution of German population in Minnesota, small areas were used as basic units. In order to show where the majority of German pioneers settled, data concerning them from the manuscript census returns for 1860 and 1870 have been delineated on three maps. Two of them show the percentage of German stock in each township in Minnesota in 1860 and 1870.[8] The third map shows the distribution of the total German population in 1870. The maps reveal that German pioneers concentrated in Carver, Sibley, Nicollet, and Brown counties located around the bend of the Minnesota River and in Stearns County along the Mississippi and to a lesser extent in Wright and Hennepin counties.

The Germans also provided a number of immigrants for the urban population of Minnesota. The tabulation at top of page 41 gives the number of persons of German stock in selected towns and cities in 1860 and 1870.[9]

In 1860, 23,309 persons born in Germany or of German-born parents lived in Minnesota. Of these, 7,768, or 33.3 percent, lived in the cities or towns enumerated in the tabulation. The urban percentage for 1860 would be still higher if the data for St. Cloud, the county seat and market-

[5] *Minnesota als eine Heimath für Einwanderer*, 33–34 (St. Paul, 1869).

[6] Hannemann, *Das Deutschtum in den Vereinigten Staaten*, 19–20, also explains the preference of the German immigrant for the North by "the nature of the land" which not only reminded him much more of home but permitted the cultivation of the same field crops as he was accustomed to in the fatherland. Cf. Kate Everest Levi, "Geographical Origin of German Immigration to Wisconsin," Wisconsin State Historical Society, *Collections*, 14:341–393 (Madison, 1898).

[7] The literature and manuscript census records often indicate that the immigrants were from Germany but not their particular country of origin, and it is difficult, therefore, to decide if a German settlement is located in natural surroundings similar to the place from which the settlers came.

[8] See the maps in Hildegard Binder-Johnson, "The Distribution of the German Pioneer Population in Minnesota," *Rural Sociology*, 6:30–31 (1941).

[9] The totals for Mankato City, Le Sueur, St. Peter, Faribault, Shakopee, Henderson, Owatonna, and Chaska in 1860 and Stillwater and Chaska in 1870 include small numbers of German rural dwellers living in the fragment townships of the respective towns. The Census of 1860 did not separate the townships or towns for Stearns County.

City or Town and County	*1860*	*1870*
Chaska, Carver	413	578
Duluth, St. Louis	4	350
Faribault, Rice	105	471
Hastings, Dakota	195	562
Henderson, Sibley	454	365
Le Sueur, Le Sueur	27	232
Mankato, Blue Earth	530	761
Minneapolis, Hennepin	186	1,440
New Ulm, Brown	583	998
Owatonna, Steele	28	279
Read's Landing, Wabasha	168	272
Red Wing, Goodhue	172	492
Rochester, Olmsted	51	386
St. Anthony, Hennepin	575	920
St. Cloud, Stearns		742
St. Paul, Ramsey	2,425	5,269
St. Peter, Nicollet	88	613
Shakopee, Scott	391	527
Sharon, Le Sueur	242	469
Stillwater, Washington	519	969
Winona, Winona	612	2,022
Total	7,768	18,717

ing center of Stearns County and the point from which settlement spread into the interior of the most German county of Minnesota, were available. On the other hand, a small number of German farmers was included in the data for Mankato, St. Peter, Le Sueur, Faribault, Shakopee, Owatonna, and Chaska which increases the percentage of urban German population in 1860. Even so, there were more German tradespeople and nonfarming family heads in proportion to the German rural population of Minnesota in 1860 than in 1870.

In 1870, Minnesota had 79,345 Germans. Of these, 18,717, or 23.6 percent, lived in cities or towns. Except New Ulm, the cities were not founded by Germans but were already in existence when they arrived. All are on navigable rivers except Rochester, Faribault, Owatonna, and Duluth. These four communities had a German population of only 1,486, or less than 2 percent of the German stock living in the State. Thus, practically all of the urban Germans were situated on rivers, but they cannot be considered as having been influenced by the fact that they wanted to live close to a river when they settled. They rarely followed rural occupations even when they lived in small country towns, as can be seen from the manuscript census returns.[10] They were primarily interested in continuing their profession or trade. Thus, to say that the Germans followed the routes prescribed by nature is not a valid explanation for the location of over one-fifth of the German population in 1870.

It is to be expected that German merchants and craftsmen liked to settle in towns where German farmers traded, and that German farmers liked to stop at German hotels on their way into the interior and to settle in regions not too far from towns with shops where their language was understood. It is difficult to ascertain the area served by a market center. A farmer in Nicollet County may have traded in St. Peter, the county seat, or in New Ulm across the Minnesota River. An occasional hint in an immigrant letter or in a newspaper does not mean that everybody from the same area necessarily traded in the same town, but the towns along the Minnesota River were usually so located that they were the natural marketing centers for their respective hinterlands.

The growth of the German rural and urban population between 1860 and 1870 may be shown by comparing the growth of the German rural population in a whole county with that of the German population of a town plus that of its small township if the two are not listed separately.[11] The proportional increase of German and non-German population in seven counties along the Minnesota River in 1860 and 1870 as compared with their respective county seats is indicated in the following tabulation.[12]

The proportional increase is more revealing for a comparative study of urban and rural settlement growth than absolute figures of increase when the numbers are sufficiently large, but it is misleading

[10] The author has abstracted the profession of every German family head or of single German adults who lived in the cities, with the exception of Minneapolis, St. Anthony, and St. Paul. In some cases, for instance Le Sueur (1860) and Stillwater (1870), the census does not make a clear distinction between the city and the township in which the city is located. There were, however, very few farmers listed in Stillwater and fewer in Le Sueur; combined professions occur, such as "farmer and bricklayer," "farmer and blacksmith," etc.

[11] For instance, compare 88 persons of German stock in Oshawa Township, including St. Peter, in 1860 with 125 persons in Oshawa Township plus 613 persons in St. Peter in 1870, *i.e.*, 738 persons.

[12] The figures for the non-German population in the counties were obtained by subtracting the German county population from the total county population.

County without County Seat and County Seat Alone	German Population 1860	German Population 1870	German Population Percent Increase	Non-German Population 1860	Non-German Population 1870	Non-German Population Percent Increase
Blue Earth County	263	1,556	492	2,982	12,992	336
Mankato	530	1,309	147	1,028	3,445	235
Brown County	612	1,889	209	1,092	3,197	193
New Ulm	583	998	71	52	312	500
Carver County	2,262	5,896	161	2,292	4,843	111
Chaska	413	578	40	139	269	94
Le Sueur County	1,344	2,542	89	3,756	8,066	115
Le Sueur	27	232	759	191	777	307
Nicollet County	883	2,440	176	1,911	1,158	−39
St. Peter	88	738	739	891	4,026	352
Scott County	1,190	3,381	184	2,267	5,049	123
Shakopee	391	737	88	747	1,875	151
Sibley County	802	2,160	169	1,929	4,932	156
Henderson	454	815	80	424	1,182	179

when the absolute numbers are small, as in the case of Le Sueur and St. Peter where German stock amounted to 27 and 88 persons in 1860 or in New Ulm where the non-German population amounted to 52 persons in 1860. Keeping this in mind, it may be stated, on the basis of the statistics, that the German rural population in the seven counties along the Minnesota River increased proportionately more than the non-German rural population, and that the German urban population in the county seats increased less than the German rural population in the respective counties, and less than the non-German urban population. In other words, the river settlements along the Minnesota attracted urban Germans in smaller proportion than their respective hinterland attracted German farmers.

All of these towns and county seats along the Minnesota River had been directly reached by the railroad or had been very closely approached by it by 1870. Easier transportation facilities especially for wheat—the only product that could stand the transportation cost—had attracted German farmers to proportionally greater degree than non-German farmers to the counties bordering the river. However, urban Germans had a proportionally smaller share in whatever business opportunity the railroad brought to the towns than did the non-Germans. This is partly attributable to the social structure of the German urban population. Generally it may be said that the Germans were frequently blacksmiths, carpenters, masons, bakers, brewers, millers, and shoemakers, and that they were not bankers, real-estate dealers, merchants, attorneys, doctors, or office clerks. The small craftsmen and tradesmen were needed and could make a living before the railroad came. In Owatonna and Rochester, two towns which owed their growth between 1860 and 1870 to the railroad, the Germans did not increase very much and those who settled there followed what may be called lower or more elementary urban occupations.[13] The increase of urban Germans at Read's Landing and Winona on the Mississippi River was also less than the increase of German farmers in their rural hinterland.[14] Minneapolis, St. Anthony, and St. Paul, large cities with an indefinite farming region on which to rely for trade and with special attractions for urban Germans, do not yield much information

[13] The total population of Rochester increased by 177 percent and that of Owatonna by 323; German stock increased from 5 percent in 1860 to 9.7 in 1870 in Rochester and from 5 to 13 in Owatonna.

[14] The proportional increase of non-German rural population was 111 percent in Winona, of German rural population 356 percent, of German urban population in Winona city 230 percent. For Read's Landing in Wabasha County the respective increases were 106, 291, and 62 percent.

with respect to the relationship between German rural and urban population.[15]

The comparative study of proportional increases of German population in the towns along the Minnesota and Mississippi rivers indicates that there was less need for German tradesmen to open new businesses between 1860–1870 than during the earliest pioneer period. The amount of business for German tradespeople in the river towns with their countrymen must have increased. The land immediately bordering the Minnesota River was occupied to a large degree, or it was reserved by speculators, or it may have been undesirable. German rural settlement moved inland during the decade to greater distances from the waterways. German farmers went to the hinterland in proportionally larger numbers than German craftsmen and businessmen went to the towns through which the farmers traveled, stopping on their way to their prospective homesteads. The development was not simultaneous; German rural settlement followed German urban settlement in that part of the State which to the present time is considered the "most German."[16]

The aim of this study is to determine the factors which brought about the concentration of German rural settlers in certain areas, while other regions were either entirely avoided or received a small share. In view of the fact that forested regions were preferred to prairie by all early settlers,[17] the area covered by the Big Woods is significant. It is difficult to define the exact line where it ended and the oak clearings gradually gave way to prairie, because hardwoods persisted along the rivers and creeks and on the adjoining uplands of the Minnesota River. All authorities agree that the eastern part of Sibley, all of Carver, and the northeastern corner of Blue Earth County on the southern bank of the Minnesota were covered by woods, and some believe that the eastern part of Nicollet County was also forested.[18] While the Germans constituted a heavy proportion of the population in the forested counties north of the Minnesota, they did not in the forested counties to the south. Furthermore, they even settled on prairie in the neighborhood of New Ulm.

The soil, generally speaking, was equally fertile on both sides of the Minnesota, but, as the hardwood belt was preferred and still unsettled when the German pioneer settlers disembarked on the northern bank, they spread northward where the greatest extension of forest was known to exist. There is no doubt that their location in the south-central part of the State was mainly a result of the time when they arrived in comparatively greatest numbers. The Norwegians who came to

[15] That over one-fifth of the Germans in Minnesota were still urban in 1870 is due to the absolute increase of Germans in Minneapolis, St. Anthony, and particularly St. Paul where their number increased from 2,425 to 5,296.

[16] See the map, "Distribution of Persons of German Origin in Minnesota, 1930," in R. W. Murchie and M. E. Jarchow, "Population Trends in Minnesota," Minnesota Agricultural Experiment Station, *Bulletin 327*, p. 35 (St. Paul, 1936).

[17] The desire to settle on wooded claims was not an exclusive characteristic of the Germans. Other European immigrants, Norwegians and Swedes for instance, as well as Americans likewise believed that the soil on wooded land was more fertile than the prairie. See Theodore C. Blegen, *Norwegian Migration to America: The American Transition*, 49 (Northfield, Minn., 1940); and Andrew Holt, "Characteristics of the Early Swedish Settlers in Minnesota," Swedish Historical Society of America, *Year-Book*, 1921–22, p. 12. According to Frederick V. Emerson, "Geographic Influences in the Mississippi Valley," Mississippi Valley Historical Association, *Proceedings*, 1914–15, p. 293, "The pioneer's belief was that the prairies, which did not produce timber, could not be productive for crop purposes." Edward Van Dyke Robinson, *Early Economic Conditions and the Development of Agriculture in Minnesota*, 62 (Minneapolis, 1915), found that the border between woodland and prairie was avoided in Minnesota, Illinois, and Wisconsin, partly because of ignorance "which led many to argue that the prairie soil must be inferior, since it would not grow trees," but mainly because of the "lack of transportation facilities and of fuel."

[18] Rexford F. Daubenmire, "The 'Big Woods' of Minnesota: Its Structure, and Relation to Climate, Fire, and Soils," *Ecological Monographs*, 6:244 (Durham, N. C., 1936), leaves Nicollet County free of woods, basing his map on relic groves existing today. Robinson, *Early Economic Conditions*, 9, includes the major part of Sibley and the eastern half of Nicollet counties. A contemporary observer, N. H. Winchell, "Notes of the Big Woods," Minnesota State Horticultural Society, *Transactions*, 1875, p. 47, described the extension as follows: "Continuing west, about six miles south of South Bend, it turns north and crosses the Minnesota, sending out a spur northwestward which follows indefinitely the Minnesota valley. Running along the west side of the Minnesota, distant from it about four miles, it begins to bear off toward the northwest at St. Peter, and passes five miles west of Henderson. . . ."

Minnesota in later decades proceeded farther northwest to the Red River Valley, because this was the next great area of the State that was fertile and accessible and offered vacant lands to farmers.

The rural element tended to follow the urban among the Germans along the Minnesota. Thus, the landing places where the Germans were among the first settlers and the small towns around which they lived in large numbers as farmers are significant. The newspapers announcing the sale of vacant lands and opportunities for German settlers seldom failed to mention the location of German hotels, responsible German real-estate dealers, and quite frequently the location of the nearest German church or school. Because of this, these locations formed the focal points from which rural settlers spread into the interior. This was more frequently the case in Carver and Sibley counties on the northern bank than in the counties on the southern bank of the Minnesota. A similar factor is the colonizing activities of social betterment and religious groups and their tendency to attract like-minded settlers. New Ulm as a striking example of the first and Stearns County of the second will be considered in detail.

Roads were scarce both north and south of the Minnesota River. One road led from St. Anthony through thick forests to Henderson on the river and thence to Fort Ridgely. Fort Ridgely in turn was connected by two roads with Traverse des Sioux in Nicollet County. By 1860 there were also roads from Hutchinson in McLeod County to Monticello in Wright County and to Kandiyohi Lake in Kandiyohi County. The increase in trade after the opening of the Sault Ste. Marie Canal in 1855 helped to develop the overland route from Superior, Wisconsin, to St. Paul via Little Falls and St. Cloud in Stearns County.[19]

Southern Minnesota had more railroads in 1870 than the region of the Minnesota Bend or Stearns County farther north. A map showing the density of the total population in Minnesota per square mile in 1870 indicates that the counties in the southern and southeastern part were more densely settled than those north of the Minnesota.[20] While improved transportation might have attracted immigrant settlers, the higher land prices did not. The unoccupied lands held by the Minnesota Valley and Winona railroads sold for $7 to $10, unimproved from $5 to $10, while choice locations sold for as much as $12 to $15 per acre. On the whole, the German immigrants disembarking at Chaska, Carver, Henderson, or St. Peter on the northern bank of the Minnesota could expect to find more unoccupied, fertile, and thickly forested land beyond the valley regions farther inland than those who stopped at Shakopee or Mankato.

Because of the combination of geographical and historical factors leading to the concentration of German rural population in the Minnesota Bend and the counties along the Mississippi, the southwestern part of the State where the Germans seldom reached a proportion of over 40 percent in any township will not be considered in detail. Primary attention, therefore, will be given to the counties along the Minnesota and Mississippi rivers. The survey begins with New Ulm in Brown County, and, using townships as statistical units, takes up Nicollet, Blue Earth, Sibley, Carver, Scott and Le Sueur counties on the Minnesota and Hennepin, Wright, and Stearns counties along the Mississippi.

NEW ULM AND BROWN COUNTY

The unique history of New Ulm and its close connection with the development of Brown and Nicollet counties requires that the founding of this town receive special attention.[21] The site was selected by the Chicago Landverein, an association of German workers and students in an evening school who wished, according to their prospectus, to found a town on land "which must be a tract with ample timber and must be located

[19] Arthur J. Larsen, "Roads and the Settlement of Minnesota," *Minnesota History*, 21:225–244 (1940).

[20] Murchie and Jarchow, "Population Trends in Minnesota," 10. See also Robinson, *Early Economic Conditions*, 46–47, 63–64.

[21] The history of New Ulm has not been adequately treated anywhere. Among the valuable sources are Alexander Berghold, "New Ulm in Minnesota," *Der Deutsche Pionier* (Cincinnati), 3:13–17 (March 1871), and "Geschichte von New-Ulm," *ibid.*, 4:122–128, 162–170 (June, July 1872), and *The Indians' Revenge; or, Days of Horror* (San Francisco, 1891); J. H. Strasser, *Chronologie der Stadt New Ulm, Minnesota* (New Ulm, 1899). Many sources were collected by Fred W. Johnson, president of the Brown County Historical Society, and the author is indebted to him for much valuable information, including a copy of his manuscript, The Acquisition of a Townsite.

on a navigable river."[22] Two agents sent to Minnesota in the summer of 1854 reported that they had found a suitable place in Nicollet County around Swan Lake. A second searching party preferred a site on the high prairie opposite Le Sueur overlooking the Minnesota River, but neither site fulfilled both conditions. In September 1854, small scouting parties looked for a site along the river between Fort Ridgely and Mankato. At La Framboise Trading Post they heard of a suitable site called Prairie Belle View, bordering the Minnesota and a short distance above its conjunction with the Cottonwood. While they were impressed with the scenic beauty and the possibilities for waterpower, there was little or no timber. In search for the much desired building and fuel material the settlers arrived in what is now Milford Township at a deserted Indian village where they were allowed to stay through the intervention of La Framboise. A number of these settlers remained as farmers in Milford Township and by 1870 the German element constituted 82 percent. The others settled on the townsite after it had been surveyed by a member of their party and approved by the president of the society in May 1855.

A year later, the townsite was sold to the socialistic Turners' North American Settlement Society of Cincinnati. The Turners of that city had a project to acquire land in the west which was partly to be platted as townsite, partly to be left as farmland "for those who would prefer agricultural employment to town property,"[23] and partly to be held as surplus to sell later in order to finance community enterprises. It was an undertaking by a group who felt that "the single individual is fighting in vain against the bad conditions," *i.e.*, poor wages, evil public administration, puritan Sunday laws, and the hostile attitude of old-stock Americans.[24] The report of the agent of the North American Settlement Society is interesting because of its frequent reference to the supply of timber. Since the most beautifully timbered lands had been taken up in the all-prairie region, he hastily secured a few timbered claims. He also bought the claim where a good landing place on the Minnesota River could be established and a sawmill 7 miles away from the townsite. Althogether he acquired 4,836.21 acres, 1,700 of them belonging to the townsite proper. To handle the entire enterprise a new organization known as the German Land Association of Minnesota was incorporated on July 5, 1856. The town with its 5,900 building lots had 95 houses by 1858. Thus, the two major factors influencing the selection of the site of New Ulm were the navigable river and access to timbered land. Another factor was the friendly interest of the French trader.

The settlement of New Ulm proves that Germans did settle occasionally on the frontier. The townsite was selected and settled by Germans before the land was opened for sale. The Germans in Milford Township settled in the midst of Indian territory, as Brown County was not organized until February 1856. When the Government placed the land on sale in the spring of 1856, the Germans did not have the means to buy all the land that they had surveyed for their town.

The religious factor was strikingly absent in attracting more German immigrants during the late fifties and early sixties. There were controversies concerning the atheistic spirit of the New Ulm Turners in the early years of the settlement, and personal interviews with old citizens of New Ulm verify the fact that strict Lutherans and devout Catholics avoided the "Turnerstadt." However, a number of the original settlers were Catholic, and the Catholic missionary priest from Mankato visited them and other scattered rural German settlers of the same faith as early as 1857. About 14 families in Cottonwood and Sigel townships immediately bordering on New Ulm built a small log church between 1859 and 1861. When Catholics of New Ulm started to build a church, the log chapel was abandoned. The unfinished church in New Ulm was burned by the Sioux Indians in 1862, but four years later Trinity Church was founded with money from Germany. In 1869, Father Berghold arrived at New Ulm to serve as resident priest. He recognized the strategic location of the Catholic church in New Ulm for recruiting members from the rural townships in Nicollet County opposite New Ulm, and from Cottonwood, Leavenworth, and Sigel townships in Brown County. He was instrumental in bringing 50 Catholic Bohemian families to the area and distributed 7,000 copies of his German

[22] Ferd. Beinhorn, Resolutions of the Chicago Land Society, a manuscript on the founding of New Ulm in its historical society.

[23] *Turnzeitung* (Cincinnati), Mar. 29, 1855.

[24] Circular issued at Cincinnati in August 1856. See also *Turnzeitung*, May 17, 1855.

booklet in Bremen, Hamburg, and Le Havre, an action for which the legislature of Minnesota expressed its official thanks.[25]

The German Lutherans of New Ulm erected a church in 1865–66. At first, itinerant ministers of the general council of the Minnesota Synod served them. In 1869, the parish was made a member of the Synod, and in 1870, a resident pastor arrived.[26] Under the energetic leadership of the successive Lutheran ministers and of Father Berghold, both churches developed rapidly. During the decade under discussion, however, their influence in attracting settlers was still insignificant.

The settling of New Ulm by Germans in 1854 decisively influenced the distribution of the Germans in Brown County. They remained concentrated in New Ulm, Cottonwood, Sigel, and Milford townships, while the southern townships were settled by Scandinavians. This concentration enabled the German population of New Ulm and vicinity to gain privileges such as bilingual instruction in the public schools which they used as advertisements in later years.[27] To the present day, New Ulm has a singular character, whether considered as a town in Minnesota as a whole or whether compared with the rest of Brown County.

NICOLLET COUNTY

The township in Nicollet County opposite New Ulm also showed a heavy concentration of German rural population. A German immigration pamphlet pointed out that the German Catholic, Protestant, and Methodist churches serving Lafayette, Courtland, and West Newton townships were only 6 miles from New Ulm.[28] The nucleus of German settlement in these townships was already recognizable in 1860 and more definite in 1870. The types of soil throughout Nicollet County do not differ sufficiently to explain the attraction of settlers to particular townships. Timber was found in the Minnesota Valley, probably in the northeastern townships, and also around Swan Lake, Middle Lake, and Timber Lake. A plat map of 1885 reveals that the names of farmers south of Swan Lake were German while those north of Swan Lake and around the other lakes were Scandinavian. Neither timber nor soil, therefore, influenced the distribution of German farmers as much as the advantages offered by consolidation around New Ulm.

The German population exceeded 100 in West Newton, Lafayette, Courtland, Nicollet, and Traverse des Sioux townships. In the last township, however, the Germans, except 8 family heads, followed urban professions and probably lived at Traverse des Sioux, an old trading post which declined in importance with the development of St. Peter. Only 24 more Germans lived in Traverse des Sioux in 1870 than in 1860. The German population in Oshawa Township and St. Peter rose from 88 persons in 1860 to 738 in 1870. Old-stock Americans sought to make St. Peter the capital of the State but the speculation in lots collapsed in 1857.[29] The Germans who came between 1860 and 1870 would not have been attracted by any prospective boom but rather by the cheapness of land. Consequently, most of the 111 German family heads listed under St. Peter in 1870 pursued the simple urban trades frequently followed by Germans.

The parallel development of Lafayette, Courtland, and Nicollet townships in the southwestern part of Nicollet County illustrates the significance of German national consciousness. In Lafayette Township the Germans constituted 88 percent of the total population in 1860 and 79 percent in 1870. They came from different parts of Germany and being mixed never had a church.[30] The neighboring Courtland Township had many Germans from Hannover and Prussia but only a few from Bavaria. Its German stock rose from 60 to 96 percent during the decade.

Knowing the German countries of origin does not permit rigorous conclusions with respect to the religious affiliation of their emigrants, but the generalization can be made that Bavarians and Austrians were usually Catholics. Fewer

[25] Alexander Berghold and Robert Schlinkert, *Geschichte der Hl. Dreifaltigkeits-Gemeinde New Ulm*, 79 (New Ulm, 1919). The author was unable to locate a copy of this immigration pamphlet.

[26] *Geschichte der Minnesota Synode und ihrer einzelnen Gemeinden, 1860–1910*, 163–166 (St. Louis, 1910).

[27] *Brown County*, 13. Judging from its contents, this German-language pamphlet was probably written in 1884, and certainly between 1882 and 1885.

[28] *Ibid.*

[29] Edward D. Neill, *History of the Minnesota Valley*, 653 (Minneapolis, 1882).

[30] If not otherwise indicated, the data on churches are from the files of the Historical Records Survey, St. Paul. The author is indebted to Jacob Hodnefield for permission to excerpt the data.

Bavarians lived in Courtland in 1870 than in 1860, but there was a heavy influx of Hannoverians and Prussians during that decade. The Immanuel Lutheran Church, founded by 15 families in 1859, was one of the oldest congregations of the Missouri Synod in the State and obviously a factor in attracting fellow believers and friends.[31] The Lutherans of Courtland at first formed a parish with those of Nicollet Township to the east. With increasing population separate churches were established at Courtland in 1867 and at Nicollet in 1869. Not a single Bavarian or Austrian had settled in Nicollet by 1870 where the German population rose from 16 to 55 percent during the preceding decade.

On the other hand, Austrians and Bavarians increased the German population of West Newton from 26 to 54 percent between 1860 and 1870. Fifteen German Catholic families organized the Church of St. George in 1858. They used a log church from 1857 to 1870 and then a frame structure which was replaced by a larger brick building in 1892; and services were held in German until 1924. Soon after the founding, a Catholic school was connected with St. George's Church. The second German church in West Newton Township was founded by 16 German Methodists in 1858, but it became defunct after the eighties. None of the townships except those here considered had a large proportion of Germans in 1860 nor a significant increase before 1870.

BLUE EARTH COUNTY

A main factor influencing the general settlement of Blue Earth County was the presence of the Winnebago Indian agency. From 1855 to 1863, settlement was restricted to the districts bordering the Minnesota River and to the most western townships because the agency comprised what is now McPherson, Decoria, Rapidan, Lyra, Beauford, Medo, and parts of Le Ray, Mankato, and South Bend townships. The soil of the county was "uniformly very productive,"[32] but timber covered only Lime, Jamestown, Le Ray, and Mankato townships in the northeastern part of the county. These four townships had 728 of the 793 Germans in Blue Earth County in 1860. Thus, accessibility of land, location along the river, and probably the existence of timber were responsible for the distribution of Germans.

In 1863, the inhabitants of Mankato and the surrounding country succeeded in having the Winnebagos removed although they had scarcely participated in the Sioux War of 1862. Consequently, as early as 1868, it was found "that the population had nearly or quite doubled" after 1865, and this was attributed to the opening of the Winnebago agency.[33] The Germans distributed themselves rather thinly over the equally fertile townships of the county open to settlement after 1863, so that by 1870 the German rural population was over 40 percent in only Lime and Mankato townships, the townships that were settled first and had the highest percentages of German settlers in 1860. National cohesion was responsible for their concentration in the same area in 1870.

The most influential factor in consolidating settlement around Mankato was the Catholic church. The Germans had been among the first to settle there because of the recommendation of an agent for a Catholic group at St. Charles, Missouri. The agent asked the Bishop of St. Paul to suggest a location. St. Cloud, the bishop's first recommendation, had too sandy a soil, but Mankato, the second choice, possessed very satisfactory agricultural possibilities.[34] Consequently, a group settled there in 1854, received a resident priest in 1856, and erected a brick rather than the customary log church. In 1862, the Sisters of Notre Dame, an order whose recruits were largely German, arrived to conduct school regularly. In 1866, the German priest of Chaska reported that the churches of the Sisters of Notre Dame were "magnificent but much too small for a subsequent heavy immigration."[35]

The development of religious life was dependent upon the medium of language because the Catholic immigrants were of mixed nationalities and of different economic levels. Whenever an immigrant group of a Catholic parish of mixed nationality felt strong enough economically to support its own church, it withdrew from the original

[31] Letter from Lutherans of Courtland to the Rev. Stülpnagel in Arndt Papers, Manuscript Collection, Concordia College, St. Paul.

[32] Minnesota Geological and Natural History Survey, *The Geology of Minnesota*, by N. H. Winchell assisted by Warren Upham, 1:420 (Minneapolis, 1884).

[33] J. A. Willard, *Blue Earth County; Its Advantages to Settlers*, 3 (Mankato, Minn., 1868).

[34] Wilhelm von Festenberg-Pakisch, *Die St. Peter und Pauls-Gemeinde in Mankato*, 5–6 (Mankato, 1899).

[35] *Berichte der Leopoldinen-Stiftung im Kaiserthume Österreich*, 36:71 (Wien, 1866).

parish. At Mankato, where the parish was preponderantly German, first the Irish left to found their own church and then the French. On the whole, however, the Bohemian and Irish Catholic parishes were not as flourishing as the German.[36] According to the census, 659 of the 761 Germans in the entire town of Mankato were concentrated in the first and second wards in 1870, and a county history states that they were mainly Catholics.[37]

German Catholics also predominated among the Germans in McPherson, Mapleton, and the northern part of Beauford townships. However, the southwestern part of the county, Pleasant Mound and the northern half of Ceresco, was settled by Germans from Prussia, with the result that "solid settlements of German Lutherans" developed rapidly. The clear division of German settlers according to religious affiliation shows that church and homogeneity of their particular German background exerted a great influence on their selection of location.

SIBLEY COUNTY

In Sibley County the townships with the highest percentages of German population do not border the Minnesota River but form a belt parallel to it. The fact that the desirable land along the river had been taken up before the German settlers could establish farms may explain this concentration. Although only the eastern part of Sibley County was covered by the Big Woods, the soil was equally fertile in all townships. The Germans' preference for wooded land is evident from the population figures for 1870 which reveal that 1,976 Germans occupied the wooded part of the county as against 999 in the timberless area. However, accessibility did influence settlement to some extent; in Arlington Township there were 603 German settlers, representing 80 percent of the population, whereas in New Auburn, also timbered but farther from the river, there were only 9 persons of German stock, representing 3 percent.

Arlington was the most thoroughly German township. Between 1860 and 1870 the German population rose from 272 to 603, while the non-German element only increased from 95 to 149 persons. With most of the settlers coming from Prussia, Hannover, and Hesse, Arlington Township became the center of German Lutheran settlement. As early as 1856 it was estimated that several hundred German Lutheran families lived within 6 to 8 miles of Arlington village,[38] and the same year saw the establishment of the first Lutheran church. A German Reformed and Evangelical church was also founded and erected in the southern part of the township in 1866. As German settlement spread toward New Auburn, the organization of German churches followed. The Catholics in the northern part of the township organized a church in 1870, and two years later St. Paul's Lutheran Church was founded near the village of Arlington. By 1883, the town also had a German church of the Ohio Synod and five years later a German Methodist church.

Green Isle Township north of Arlington and east of New Auburn was heavily timbered, but it was not settled until 1857 because of its inland position. By 1860 the township contained 98 German immigrants who, with their children, represented 45 percent of the population; and within the decade the number rose to 135, or 50 percent. Of the latter, 127 were Prussians. They were Lutherans and met for occasional services in the homes of pioneers between 1861 and 1871. They had a resident pastor after 1871 and completed their church by 1875. The oldest Catholic church was established by about one hundred Irish families in 1865.

Dryden Township, west of Arlington and farther from the river, was covered by timber only in the northeastern part. The settlers usually came by steamboat or traveled along the river in wagons and had to pass through Arlington before they reached Dryden. Still the German portion of the population rose from 40 to 80 percent between 1860 and 1870. Dryden Township illustrates excellently the significance of a strictly Lutheran settlement as an attraction for other settlers of the same faith. In 1860, 60 of the 95 German-born immigrants had come from Prussia; in 1870, 188 of 214 were of the same origin. A parochial school was a further inducement after 1864 for German settlers who belonged or wished to belong to the Missouri Synod; the Lutheran pastor of Arlington served this parish after 1860.

Kelso and Sibley townships were listed together in the 1860 census. Because Kelso was closer to

[36] *Ibid.*, 33:35 (1863).

[37] The statistical finding is supported by Thomas Hughes, *History of Blue Earth County*, 179 (Chicago, 1909).

[38] H. Meyer, *Pflanzungsgeschichte des Minnesota Distrikts*, 25 (Minneapolis, 1932).

the river and did not contain much timber, it is reported that the first pioneers of 1853 later abandoned their claims in order to seek wooded country.[39] In 1860 there were only 61 German immigrants, chiefly Prussians, in the township, but by 1870 they had increased to 181 and, with their children, comprised 309 persons or 70 percent of the total population. In Sibley where the German population of 355 persons consisted almost entirely of Prussians, the Lutherans predominated. They met regularly after 1862, and 4 years later 17 families organized Trinity Lutheran Church as a member of the American Lutheran Church.

Faxon Township was settled early, being timbered and conveniently located along the river. Obviously the Germans came too late to claim much valuable land as they represented only 5 percent of the population. Jessenland was also heavily timbered and equally accessible, but the German percentage of 29 again shows that settlers had to come early if they were to get good claims close to the river. The same was true of Washington Lake west of Faxon where 92 German inhabitants represented only 15 percent of the total. In Henderson Township the rural German population amounted to 35 percent in 1870. The urban German population in the village of Henderson was 52 percent and mainly employed in small trades. The mixed character of the German population in and around Henderson provided social attractions for Catholics, Lutherans, Methodists, and freethinkers alike, but the lack of homogeneity worked toward dispersion rather than consolidation of the German element at the place where most of the Germans reached the county.

Taking the county as a whole, the geographical factors did not exert the strong influence on German settlement that the social factors did. The homogeneity of the Germans and the simultaneous development of their churches show that common local origin and common religion were the strongest factors in bringing them to this particular region. The rôle of the Lutheran church was especially important in consolidating the German settlement of Sibley in the five adjoining townships of Arlington, Dryden, Green Isle, Kelso, and Sibley.

CARVER COUNTY

Carver County was entirely covered by thick woods and was converted into farms with difficulty. Its black topsoil was very fertile and averaged 2 feet thick. The county was open to settlement after the Indian treaty at Mendota in 1851 which was confirmed in February 1853, and most of its homesteads were acquired by preemption at $1.25 an acre. While settlement naturally spread farther inland from the Minnesota Valley and Germans were among the first settlers in almost every township, the region of densest German settlement was not found along the river. A German Lutheran minister reported from his missionary journey as early as 1856 that many Germans had already settled in this part but that German immigrants of the present and future would have to go farther inland since the land 20 to 30 miles west of the river was already taken up.[40] Thus the principal factor bringing about the location of more than half of the German population of Carver County in Benton, Young America, Laketown, and Waconia townships was the availability of good land at the time of the arrival of German settlers. Next to Stearns County, this area in Carver represented the heaviest concentration of German rural population in the entire State.

In Young America Township the Germans were among the first settlers. At Hamburg immigrants from Hannover settled as squatters before the land was open to preemption. The Irish and old-stock Americans in the township in 1860 had been crowded out by 1870, and only a few Hollanders remained among the Germans. The fate of the Catholic church of Young America illustrates the process. Founded in 1859, the church was largely Irish and consequently English-speaking. Because of the increase of non-Catholics in the community and the rising hostility, the church was finally moved to Norwood farther south. The Lutherans were visited by a minister of the Missouri Synod from 1857 on and received a resident minister in 1860.[41] Other German Protestant churches were established later.

Many of the German settlers in Young America were liberals with an active social life centered in the village. They founded a Männerchor and built a Sängerhall in 1867 which is still standing. In later years, a Goethe Lodge, a Humboldt Lodge, a Moltke Lodge, all of the order of the Sons of Hermann, were organized. Similar

[39] Neill, *History of the Minnesota Valley*, 446.

[40] Meyer, *Pflanzungsgeschichte*, 24.

[41] *Ibid.*, 38. Neill, *History of the Minnesota Valley*, 399, gives 1858 as the date.

societies from Watertown, Waconia, and Carver townships joined them in their numerous, merry festivals. The many social activities that were not entirely dependent on church life and the good soil attracted so many Germans that the township became almost exclusively German.

Benton Township east of Young America was the only one of the four where the percentage of Germans decreased from 83 percent in 1860 to 67 in 1870. The first settlers were Germans who located claims rather far apart, and a number of Swedes settled among them; later, the Swedes were displaced by Germans and Hollanders.[42] Among the German-speaking churches established in the township early in the decade were a Catholic, two Evangelical Reformed, a Lutheran, and a German Methodist church. The existence of three more German Protestant churches by the end of the decade is evidence of the large influx of Prussians and the relatively few Catholic Bavarians and Badeners.

The earliest settlers of Laketown were Germans and only one Norwegian group settled in the northwestern part of the township in 1855. The percentage of Germans amounted to 80 in 1860 and 81 in 1870 with not a single native American family in the township in the latter year. The majority of the farmers came directly to Minnesota from Germany, for, according to the census lists, their children were born either in German countries or in Minnesota. Several factors indicate religious indifference on the part of the Germans in Laketown. There were no German immigrant churches, and only the Moravian churches around Lake Auburn and the Zoar Moravian church were German-speaking. Although the first school of twenty pupils was taught by a German in 1859, it was not affiliated with any church. The German population in 1870 was very mixed and frequent intermarriages between Germans of different countries hint at a lack of church loyalty, because these countries were either Catholic or Protestant strongholds. The settlers proposed the name "Liberty" for their township in 1858, a name which, although frequently proposed for settlements at this period, indicates that these Germans were liberals.

Waconia Township with its rolling surface and numerous lakes attracted the first Germans in 1855 who settled in the southern part. The large Swedish settlement around the fertile maple-wooded shores of Waconia Lake consisted of Baptists and Lutherans, but the latter group, not wanting to live with fellow countrymen of a different faith, sold out to the Germans.[43] As a result the Germans constituted 76 percent of the population in 1860 and 87 in 1870. Although there were 59 German families or 356 persons in 1860 and 173 families or 956 persons in 1870, only two churches were established—a Catholic church in 1857 with 30 families and a Lutheran church in 1865 with 20 families. This fact would indicate that there was no great interest in religious life. Part of the German Catholic population was served by St. Bonifacius in Hennepin County.

In Chaska Township the first to take up claims were German settlers, and they rapidly attracted others, until they amounted to 75 percent of the population in 1860. Chaska was the landing place for most immigrants and settlers coming to Carver County by way of the Minnesota River from St. Paul, and the fact that the Germans were the first to settle directly on the frontier in Indian territory resulted in a rapid increase of Germans until the demand for German tradespeople in the town itself was satisfied. In 1857, a German newspaper, the *Minnesota Thalbote*, was started, but it lasted only one year. In the same year, the Benedictine Fathers from Shakopee established a Catholic church which received a resident priest in 1870. By this time, the Germans were practicing the simple urban professions, more American businessmen found their way into the river town, and the Germans represented only 68 percent of the population, or less than in 1860. The Franciscans arrived in 1876 and established their monastery four years later; but there was no parish of the Missouri Synod until 1884. Another German-speaking church was founded in 1858 but cannot be classified as an immigrant church as it was started by Moravians from Pennsylvania. Thus again, it was the secular rather than religious social life that was significant during the earliest period.

Dahlgren Township, which included Chaska and Carver until 1864, was first settled by Swedes. The Germans comprised only 39 percent of the total population in 1870, as most of them avoided the region of Swedish pioneer settlement and proceeded to the four adjoining townships with strong German concentration. Later, however, they succeeded in displacing the Swedes by spread-

[42] *Ibid.*, 292–293; *Belle Plaine Herald*, July 18, 1929.

[43] *Hemlandet*, (Galesburg, Ill.), Sept. 8, 1858.

ing toward the Minnesota River from their centers farther inland. San Francisco, a small township along the Minnesota River, had a negligible German population at first. Obviously the Germans came too late to secure land along the river in a township which boasted the county seat and where land prices were accordingly high.

Watertown and Hollywood, the two northern townships, had large absolute numbers of Germans. The first had 280 German-born immigrants and 529 persons of German stock in 1870; the corresponding figures for Hollywood were 147 and 224. However, the proportion of German to total population is not impressive, the percentages being 43 and 42 respectively. The Germans in Camden Township, west of Waconia and north of Young America, constituted 58 percent of the total. The Germans reached these townships after they had passed through the river townships with a high proportion of Germans and many social attractions, and through the solid German settlements in the four adjoining townships.

Thus, the religious factor that was so influential in other parts of the State was not very important in concentrating pioneer Germans in the central and western part of Carver County. The availability of good land not too distant from the cities of Minnesota and, most of all, national cohesion were responsible for the development of a solid German district in Carver.

SCOTT COUNTY

Scott County on the south side of the Minnesota River was favorably located not only for immigrants arriving by boat from St. Paul but also for those traveling in covered wagons, because the latter did not have to cross the river. By 1860, 995 German-born immigrants had settled in the county, 917 of whom with their families lived in the river townships, Eagle Creek, Shakopee, Sand Creek, and Belle Plaine. Although 1,362 of the 1,581 persons of German stock were concentrated in these townships, the German proportion only amounted to 38, 34, 67, and 33 percent respectively. During the sixties, other immigrants spread into the hinterland, and the Germans moved with them so that while the absolute population continued to increase, the percentage of German population decreased in all the river townships except Shakopee and the adjoining Louisville. Because of this shift, there was a corresponding rise in the percentage of Germans in the inland townships such as Helena and New Market where the Germans represented 50 and 60 percent of the population by 1870.

The point from which settlement spread was Shakopee, a landing place where a trading post had been founded in 1851. Apparently most of the Germans settling in Shakopee were townspeople, because in 1870 when the town and township were listed separately, the percentages of German urban and rural population were 45 and 11 respectively, as against 34 percent for both in 1860. The first claims were not taken up on the prairie surrounding the town but on timbered land further inland. The Germans in search of farmsteads went east to Eagle Creek, south to Sand Creek, or further upstream to Belle Plaine Township.

The early history of Belle Plaine parallels that of St. Peter. A settlement company had speculated in land at the site of the village, and it was not until land values declined following the crash of 1857 that German farmers could afford to buy desirable timbered land along the river. This retardation of German settlement is partly substantiated by the fact that Belle Plaine in the summer of 1860 had only one German child four years old who was born in Minnesota. All the other Minnesota-born German children were two or less, showing that the parents did not reach the community before 1857. The assumption is further corroborated by the fact that most of the German children four or five years old had been born in other States indicating that the parents could not have moved to Minnesota until 1856. By 1870 the population of the township amounted to 2,375 persons, 751 of whom were Germans. The German proportion remained practically the same as it had been in 1860, *i.e.*, 32 percent. An English-speaking Catholic church had been established in 1859, but the Germans being numerically and economically strong enough withdrew and started their own church ten years later. The German church attracted enough new settlers to keep the German percentage almost constant.

The first settlers of Helena Township, east of Belle Plaine and south of Sand Creek, were German Catholics. Father Weniger, an active Catholic missionary and colonizer, visited their small settlement in 1856, and the first church services were held the same year. The German population increased from 22 immigrants in 1860 to 243 in 1870, more than half of whom came from

the Rhineland, a predominantly Catholic district of Prussia. Here again the Catholic church was influential in consolidating German settlement. The number of intermarriages that had taken place by 1870 between Germans and Luxemburgers, Irish, and Bohemians denotes a solid Catholic settlement, for such a practice was very rare among Protestant Germans.

The German immigrants going to Helena had to pass through Louisville and Sand Creek townships on their way from Shakopee. Louisville was very small. Here the Germans represented 59 percent of the population by 1870. A Catholic church had been founded as early as 1856 with the result that most of the immigrants to the township were from strongly Catholic German countries. Sand Creek, directly south of Louisville, also had been settled by German Catholics from the Rhineland and Westphalia. Thus there was a continuous Catholic district from Shakopee south to Helena.

New Market Township in the southeastern part of the county is an example of Catholic group settlement. In 1860 the German population consisted of one family of seven persons born in Baden and one Hannoverian married to an Irish woman. After the arrival of a group of Catholic Luxemburgers, the number of German settlers steadily increased, until by 1870 the German-speaking group represented 60 percent of the population. At that time most of the 143 German immigrants were from Luxemburg and Prussia. Frequent intermarriages between the two and their solid co-settlement indicate that the Prussians were Catholic. Services were held from 1858 to 1861, but no church was built until later.

Thus German settlement in Scott County spread inland from several points along the Minnesota. At first higher prices for land in the townships bordering the river and less opportunity for selection caused the Germans to go farther inland, but social attractions and Catholic colonization activity exerted some influence on settlement. Eagle Creek, for example, had no German church, and its percentage of German population dropped from 36 to 12 during the decade. Credit River and Spring Lake townships had only insignificant percentages of German settlers.

LE SUEUR COUNTY

Le Sueur should have been as desirable as any other county situated along the Minnesota River. It was almost entirely covered by the Big Woods, its black soil was very fertile, and its undulating surface afforded good drainage. However, the German stock in Le Sueur amounted to only 26 percent of the total population in 1860 and 24 in 1870. Just as in Blue Earth County there was no government land available in 1867. Much of the unoccupied land was held by the railroad, and the Germans preferred to settle on cheaper government land even if it meant going farther inland as they did on the north side of the Minnesota River. Furthermore, the prospect of railroads did not attract them as much as it did settlers of other nationalities.

Sharon, close to Le Sueur on the river, was the only township in the county where the Germans represented more than half of the population. The first settler in 1854 was a German, and the village of Dresselville was named for a German pioneer who had been a printer with the *Minnesota Staatszeitung* in St. Paul, and later became postmaster and county treasurer. The fact that the first settlers were Germans and therefore were frequently called upon to serve in public offices attracted other immigrants of the same nationality. However, German national consciousness was not only an attractive but also a repellent influence at times. During the decade a number of Swiss who had settled as a group before 1860 left the township, as did most of the German Catholics, so that the Prussians and Hannoverians were in the majority. As early as 1857 Catholic services were held at Sharon, and a frame church was erected two years later. At first the services were in German, but later English was used. An active German Methodist group organized a church in 1859; and ten years later a German Evangelical church was established in Sharon.

The total population of Lanesburgh Township increased from 299 in 1860 to 1,123 in 1870, but German immigration did not contribute to this large increase. During the decade only 26 German immigrants were added to the population of the township, and consequently, the German percentage dropped from 34 in 1860 to 15 in 1870. The Germans shared the Catholic church which had been built at Lanesburgh in 1857 with 101 Bohemians. Both languages were used in the services. By 1870, the Bohemains with their children amounted to 869 persons. However, the Catholic religion and active church life did not prove strong enough to draw or keep the Catholic

settlers of different nationalities together. Instead the national spirit was stronger, as the Germans did not continue to settle where another nationality predominated.

The Germans spread rather evenly over the other townships of Le Sueur County, amounting to the same proportion in 1870 as in 1860 and representing about one-fifth of the total population as they did in most of the southeastern part of the State. In Montgomery, Lexington, Cleveland, and Kasota townships, the percentages either remained stable or declined. The search for the factors determining this even distribution did not render much information.

HENNEPIN COUNTY

Hennepin County had 1,878 Germans in 1860 and 5,522 in 1870. In 1860, it had 1,260 German-born, 759 of whom lived in rural townships outside the cities of St. Anthony and Minneapolis. Of the 1,878 persons of German stock, 1,117 lived outside the cites. In 1870, 1,716 of the 3,185 German-born and 2,272 of the 5,522 of German stock were rural.

The German rural population was densest in the central townships of Medina, Maple Grove, Plymouth, and Minnetrista. The proportional increase in Maple Grove was considerable, the increase being from 19 percent (based on 58 German-born immigrants and 86 persons of German stock) in 1860 to 42 percent (based on 203 German-born and 423 of German stock) in 1870. Here a single group predominated; in 1870, 130 of the 203 were Prussians. In Plymouth also the proportional increase from 24 to 37 percent was mainly Prussians, who were the only German group to settle in the township by 1860. There was no German church in the township, the Catholic church being English-speaking from the beginning. The founding of the Evangelical church by 10 families in 1877 was the result rather than the cause of Prussian concentration. The cohesion of a specific group was the most significant factor in the growth of this settlement.

The German proportion in Medina and Minnetrista townships decreased during the decade. Medina's population was mixed both in 1860 and 1870, although the Prussians were in the majority. In 1870 the Germans in Minnetrista still constituted half the population, but they were very mixed in country of origin. Following early service by the missionary priest, Father Weniger, the German Catholic Society, formed in 1856, founded a church with the unusual name German Catholic Church which was later changed to Church of the Holy Name of Jesus. Its location in the southwestern corner of the township made it easily accessible to the Catholics of Laketown, Waconia, and Watertown townships in Carver County and explains its having 342 members at the time of its foundation, whereas Medina Township alone had only 66 German immigrants in 1860. This church was served by Franciscan Fathers from Waconia and continued to use the German language until 1912. Even today 311 of its 336 members are of German descent. It was primarily this flourishing church that helped to consolidate German settlement in Minnetrista Township. The Baptist church, founded as early as 1853, was exclusively German.

The percentage gains of Germans in Brooklyn, Dayton, Hassan, and Greenwood townships during the decade were moderate, the increases being from 1 to 16, 3 to 9, 18 to 24, and 40 to 59 percent respectively, but the total number of Germans was significant only in Greenwood. In this township it is likely that statements by friends and relatives brought the additions. Of the 66 German immigrants there in 1860, 62 came from "Germany," and of the 127 in 1870, 94 were from Prussia. Probably the "Germans" of 1860 were Prussians. A German Lutheran and German Methodist church were founded in 1867 and 1868 respectively. Bloomington and Eden Prairie townships bordering the Minnesota River never had a significant German population.

On the whole German settlement in the county was not influenced by generally decisive factors such as a strong missionary church activity, a strategic landing place from which settlement moved farther inland, or the availability of desirable land along the river. Settlement spread from the cities toward the central townships where the Germans reached considerable proportions. The German rural population increased slightly more than the rest of the rural population, the ratio being 19 percent in 1860 and 20 in 1870. The factor which exercised the greatest influence both in maintaining German population at the proportions which it held in earliest pioneer days and in increasing it was the one which is hardest to document for this or any other region. Unknown farmers sent German immigration pamphlets and letters, now rarely available, to friends or relatives

in Prussia or in the eastern United States, describing attractively the conditions of settlement around their farmsteads.

WRIGHT COUNTY

In Wright County the Germans concentrated in Frankfort and Rockford townships bordering the Crow River. Those who arrived early in 1854 and 1855 either by boat via the Mississippi and Crow rivers or by roads paralleling the rivers naturally chose desirable locations as close to the river as possible. The county was settled by Catholics of different nationalities. The German Catholics settled mostly on and near the Crow River, the French especially in Marysville and Chatham townships, and the Poles in a compact mass in Woodland and the western part of Franklin Township. The Irish had no special choice but predominated in and near Buffalo, Waverly, Maple Lake, and Annandale.[44] In Frankfort the German percentage of the population rose from 59 in 1860 to 73 in 1870. This increase among German Catholics was due mainly to natural growth rather than new immigration. The size of the average family was six persons. The settlement had a German schoolmaster and a German physician in 1870, and all social life centered around the Catholic church.

Although Rockford Township, adjoining Frankfort on the south, showed an absolute increase from 72 to 229 persons of German stock, the percentage only increased from 29 to 30. About two-thirds of its Germans in 1860 and three-fourths in 1870 were Prussian. The village of Rockford on the Crow River opposite Greenwood Township in Hennepin County also had a preponderantly Prussian population and a Lutheran church of the Wisconsin Synod founded in 1868.

In two other townships, Middleville and Franklin, the Germans represented 43 and 35 percent of the population in 1860. By 1870, the German ratio in Middleville had not only dropped from 43 to 13 percent, but the absolute number of German immigrants had decreased from 36 to 22 persons. In Franklin Township, with only 17 more German-born immigrants in 1870 than in 1860, the ratio dropped to 28 percent. Still, Franklin with its 221 Germans in 1870 was one of the five townships in the county where the German population exceeded 100.

[44] Rev. Mathias Savs, "The Catholic Church in Wright County, Minn.," *Acta et Dicta*, 4: 221–222 (July 1916).

Buffalo Township, with 159 persons of German stock in 1870, adjoined Frankfort and Rockford where the Germans had also concentrated. Those in Buffalo were predominantly Prussian.

The fifth township with over 100 was Victor, which had been part of Middleville in 1860. In 1870 the absolute number of Germans in Victor was 156, and the percentage 26. These settlers came directly from Prussia to Minnesota and in all likelihood were Protestants, for they organized a Lutheran church of the Missouri Synod in 1875.

The four townships of Frankfort, Rockford, Franklin, and Buffalo with 1,012 of the 1,790 Germans in the county in 1870, together with adjacent Greenwood in Hennepin County, formed a region of dense German settlement. The direction from which settlers came, using the route of the Mississippi and Crow rivers from St. Paul, and the time of their arrival determined their location and concentration. Later, German newcomers preferred to settle among their particular countrymen.

STEARNS COUNTY

Stearns County reached via the Mississippi River is comparable to New Ulm on the Minnesota in that it was located directly on the frontier and its early settlers were Germans. Like New Ulm the development of this northern settlement justifies special attention. Three factors combined to produce by 1870 the singular result of a county where nine of the townships had a German population of over 80 percent and eleven others had from 60 to 80 percent. This concentration was the product of the colonizing activities of Father Pierz, the support of the Ludwig-Missionsverein in Munich, and the missionary work of the Benedictine Fathers.

The Catholic Church engaged in organized colonization along the frontier to a much greater degree than any other church. It was quite customary for settlers of Catholic faith to ask the bishop of the State where they proposed to settle or their own priest to recommend suitable locations. Naturally the Catholic Church was anxious to direct the stream of its adherents seeking homesteads to places where a church was already established or where the concentration of Catholic settlers would soon warrant a church and a priest. It is significant that neither the Catholic Church, containing within its fold, pioneers of Irish, German, Bohemian, and Polish descent, nor the frontier were able to break down national

barriers among the settlers. Religious communication like all other human communication is bound to the medium of language. The frontier priest, unsupported by tradition and an aesthetic church environment like those administering in century-old European churches, was highly dependent on the language in which he addressed his flock if he wished to reach the settlers and stir them to religious and social activity. When the Benedictine Fathers were brought to Minnesota "to meet the spiritual wants of the German Catholics" the want was linguistic as much as it was spiritual.[45]

Stearns County became a focal point of German Catholic settlement largely because of the initial interest and activities of Father Pierz. This Slovenian first came to America in 1836 as a missionary to the Chippewa Indians, and much of his later work was supported by the Leopoldine Society of Vienna. His journeys brought him to Grand Portage and finally to Crow Wing in 1852.[46] In the years immediately following, he visited regularly the missions which he founded at Sauk Rapids, Swan River, St. Joseph, St. Cloud, St. Augusta, and Belle Prairie.

Father Pierz was determined to make Stearns County a stronghold of German Catholic settlement. He wrote numerous letters about Minnesota with emphasis on the region where he served to the *Wahrheitsfreund*, a German Catholic newspaper in Cincinnati, and in 1855 he summarized the observations and arguments of these letters in a German immigrant pamphlet.[47] The arguments which he used to attract German settlers are significant. He pointed out that "more than fifty [German] families" had responded to his invitation in the *Wahrheitsfreund* for March 4, 1854, and asserted that Minnesota "has a mild climate like that of Germany and a very healthful air." Its soil was particularly good, more than half of its meadows being excellent black loam with a splendid mixture of sand and clay. Timber and water were ample; if a farmer did not have access to a spring or a river he could dig a well 8 to 12 feet deep in a few days at little cost. There was much wild game for food. High wages for hired men and housemaids and the profits which Minnesota offered to merchants, manufacturers, tradesmen, and other speculators were mentioned. He himself had just opened a new church in Sauk Rapids where he hoped to establish a school the next year with nuns as teachers. He mentioned other churches in existence or under construction and emphasized that "these Germans settlers will not be without spiritual care." He strongly advised "these Germans who live in over-populated cities and are becoming too anglicized in the employ of Americans and Protestants . . . to take up farming . . . in this romantic region of Minnesota. . . ." In conclusion, he said:

> Hasten then, my dear German people, those of you who have in mind to change your abode and to settle in Minnesota. Do not delay to join the stream of immigration, for the sooner you come the better will be your opportunity to choose a good place to settle. Several hundred families can still find good claims along the Sauk River and in the surrounding country no doubt several thousand families can find favorable places for settlement.
>
> I do wish, however, that the choicest places of land in this delightful Territory would become the property of thrifty Catholics who would make an earthly paradise of this Minnesota which Heaven has so richly blessed, and who would bear out the opinion that Germans prove to be the best farmers and the best Christians in America. I am sure that you will likewise do credit to your faith here in Minnesota, but to prove yourselves good Catholics do not bring with you any free-thinkers, red republicans, atheists or agitators.

It was Pierz also who suggested to the bishop at St. Paul that he ask the Benedictines to send missionaries to Minnesota. The Benedictines with their combination of spiritual service and almost autonomous economy were ideal missionaries for the frontier. In Stearns County their success was also due to the generous support they received from the Ludwig-Missionsverein of Bavaria.[48]

[45] Most Rev. John Ireland, *Fifty Years of Catholicity in the Northwest*, 9 (St. Paul, 1901).

[46] Sister Grace McDonald, "Father Francis Pierz, Missionary," *Minnesota History*, 10:107–125 (1929).

[47] Pierz's summary was published as an appendix entitled "Eine kurze Beschreibung des Minnesota-Territoriums" in his book, *Die Indianer in Nord-Amerika, Gebräuche u. s. w.* (St. Louis, 1855), and the appendix is said to have been issued also as a separate pamphlet. The quotations are from the translation by J. B. Tennelly, "Father Pierz, Missionary and Colonizer," *Acta et Dicta*, 7:119–130 (October 1935), In Rev. John Seliskar, "The Reverend Francis Pirec, Indian Missionary," *Acta et Dicta*, 3: 66–90 (July 1911). Archbishop Ireland is quoted on p. 80 as saying that Pierz "Filled week after week, the columns of German papers in America and in Europe with vivid picturings of the region. . . ." However, the papers are not mentioned specifically by name.

[48] Rev. Theodore Roemer, *The Ludwig-Missionsverein and the Church in the United States, 1838–1918* (Washington, 1933); M. M. Hoffmann, *The Church Fathers of the Northwest* (Milwaukee, 1937).

The fact that most of the money distributed by the Propaganda in Rome and by the Society for the Propagation of Faith in Lyons was preferably spent for Italian, French, and Irish Catholics strengthened the determination of the Verein to provide for the needs of its German countrymen in America. In addition, the Verein's assistance was given directly to the Benedictine monasteries so that they were not dependent on the discretion of the bishops. Only two of the twenty-five American bishops in 1846 were German.

The first group of Benedictines arrived in 1856, and the financial aid received from Bavaria enabled them to start St. John's Abbey at Collegeville not far from St. Cloud at once. In gratitude to King Ludwig their patron in Munich, the abbey was originally called "St. Ludwig am See."[49] In this way, the region was provided with an institution that supplied the priests and teachers needed by the Catholic communities first visualized by Father Pierz.

The tendency of German Catholics to concentrate in the county was apparent by 1861. So many, who had settled originally on the Sauk River along the route from St. Paul to Fort Ripley, moved across the Mississippi into the neighborhood of St. Cloud that the church at Sauk Rapids had to be closed. In contrast, the American and non-Catholic settlers of the county had begun to move out. According to the report of the Leopoldine Foundation for 1861, "Whoever wants to own land can chose here after his liking, can claim or buy, particularly from the Yankees, who all soon move away from the Catholic environment and make room for the Catholics, full of anger since they fear the sign of the cross."[50] By 1866, the county had twelve Catholic churches and was cited as the outstanding example of a region where the nationalistic as well as religious objectives of the missionaries were apparently being fulfilled.[51] In later years the German immigrants to the county were more diverse as to country of origin, but even today the population of German descent is preponderantly Catholic.

Needless to say, there were other places in Minnesota where Catholicism flourished and missionary priests helped to consolidate parishes consisting of Germans. For example, Pierz Township in Morrison County was practically 100-percent German in 1870 because Father Pierz directed a group of settlers to a fertile opening there called Rich Prairie, and he himself resided among them from 1871 to 1873.[52] Rush Lake Township in Otter Tail County, settled by German Catholics from Ohio under the leadership of a priest from Baden, was a similar outpost.[53] However, Stearns County was the most distinctive and lasting as well as the first result of Catholic colonization in Minnesota.

SUMMARY

As a generalization, the most important factor determining the distribution of German pioneers in the region covered by this study was accessibility in terms of time and place. Practically all of the timbered land of the hardwood belt was still to be settled. Thus, the immigrants, sharing the generally held but erroneous opinion that forested land meant better soil than prairie land, could locate in wooded country. The railroads were of little significance for the Germans because Minnesota had practically none at the time when the first Germans reached the frontier counties. In addition, it should be born in mind that the railroads, when constructed, closely paralleled the roads. The main highways of German migration were the rivers. In the case of the Minnesota River, the years of maximum traffic, 1857–1862, coincided with the first great wave of German pioneer settlement in the region.

The desire to settle along navigable rivers was very strong, and it superseded the desire for timbered land in the case of New Ulm. When the land bordering the river was already taken, the Germans pushed inland, as in Sibley and Carver counties. However, the fifth of the German pioneer population that settled in towns did so because of their trade interests and opportunities and not because the towns happened to be on streams.

Germans settled directly on the frontier at New Ulm and in Stearns, Morrison, and Otter Tail counties. In some townships in Carver they settled on land surrounded by Indians.

[49] Father Alexius Hoffmann, *St. John's University, Collegeville, Minnesota*, 16 (Collegeville, 1907). In the *Berichte der Leopoldinen-Stiftung*, 42:38 (1872), St. John's College was still called "Ludwigs-Abtei."

[50] *Ibid.*, 31:40–44 (1861).

[51] Report of P. Magnus Mayr, in *ibid.*, 36:69 (1866).

[52] Clara K. Fuller, *History of Morrison and Todd Counties*, 1:160 (Indianapolis, 1915).

[53] *Berichte der Leopoldinen-Stiftung*, 43:45, 47 (1873).

The factor of national cohesion was exclusively responsible for Germans settling in townships where the soil, the timber supply, and transportation facilities were no better than those of neighboring townships where they did not settle. The homogeneity in certain townships was due to the fact that immigrants settled where their countrymen had preceded them. In these situations, letters from friends and relatives were far more effective than official encouragement.

The tribal character of the Germans led to distinct divisions, often in adjoining townships, between those from southern or southwestern Germany and those from northern Germany. This national or tribal consciousness often corresponded with the religious faith of the immigrants, and thus churches were a strong social factor in drawing further immigration. In townships without German churches, the German ratios often decreased during the decade studied.

In communities where the Germans were the first settlers, they remained a majority during the 1860s but did not often spread to neighboring townships. Social pull rather than economic advantage was responsible for continued influx of Germans into such townships which either preserved or strengthened the initial concentration.

Catholic colonization was highly important, but it did not transcend national origins. A Catholic parish of mixed nationalities invariably divided as soon as one of its component parts felt strong enough numerically and economically to do so.

Historical facts also influenced initial distribution. The French trader's recommendation of the site of New Ulm and Father Pierz's location among the Chippewa Indians are examples.

NEWS NOTES AND COMMENTS

MIRROR FOR AMERICANS

Ralph H. Brown's *Mirror for Americans: Likeness of the Eastern Seaboard, 1810* (New York, American Geographical Society, 1943, 312 p.) is a very interesting and comparatively successful experiment. The author used only sources that would have been available in 1810 and sought to maintain the viewpoint and style of a writer of that time. He thus deprived himself, insofar as possible, of the advantages and also the disadvantages of hindsight.

By 1810 the seventeen United States and the two Canadas had been described by a large number of writers. American and foreign travelers had published accounts of their wanderings. Students of natural history had catalogued plants and animals and described rock formations. Weather records extending well back into the eighteenth century were being maintained. Resources had been inventoried and supposed productive capacities described. Various governmental agencies had published statistics on population, trade, and industries. No American attempted to synthesize the data in these sources, but a German named Christoph Daniel Ebeling did so in his seven-volume *Erdbeschreibung und Geschichte von Amerika* (1793–1816). This served as the model for Brown's work.

The first part of the book views the seaboard as a whole. There are chapters on the natural setting, the population, the ways of travel, the principal occupations, the fishing and whaling interests, and maritime commerce. Each of the next seven chapters is devoted to a particular region. Together they cover most but not all of the coastal areas. The back country of Virginia and the Carolinas deserves more than the one paragraph devoted to it. In the Carolinas it was the seat of the new cotton culture and more populous than the coast. The bibliography is extensive. The maps and pictures accompanying the main text are reproductions from the sources or sketches in the style of the period.

The volume is a useful digest of the early economic and geographical source materials. It presents little new data dealing strictly with agricultural history, but it does provide an interesting series of pictures of man's adjustment to his resources at the beginning of the nineteenth century. —*Arthur R. Hall.*

PEHR KALM'S REPORT ON THE CHARACTERISTICS AND USES OF THE AMERICAN WALNUT TREE WHICH IS CALLED HICKORY

ESTHER LOUISE LARSEN

I have already had the honor of sending to the Royal Swedish Academy an account of the characteristics and uses of two American walnut trees, namely the black walnut, which was inserted in Kongl. Academiens *Handlingar* for the year 1767, and the white walnut, which can be found in the same *Handlingar* for the year 1769. In the latter I discussed the following possibility: I mentioned on page 126 that I thought that these white walnut trees would succeed in producing ripe nuts when somewhat warmer and longer summers occurred. Now I have the pleasure to report that the assumption mentioned above was not without foundation. In the autumn of 1775, although the summer of that year was not one of the warmest in this locality, the white walnut trees which I had planted produced ripe nuts in my own orchard at Staden as well as on the plantation at Sipsalo. The following November I planted a number of these nuts in the orchard of the Academy. Small walnut trees began to come up on July 5 of the following year, 1776. Later that summer I devised a different method of care. The young trees were left uncovered most of the winter. They were, however, entirely healthy in the spring of 1777 and had not been injured in the least. The leaves shot out as soon as the air became warm, and the trees grew beautifully that summer. Immediately in the spring I gave some of these trees to certain gentlemen who take pleasure in horticulture. This summer, 1778, the trees have made very good growth.

I now beg the honor of being permitted to present to the Royal Academy an account of the characteristics and uses of the third type of North American walnut tree which everywhere in the English colonies is called *hiccory*.[1]

Name. The late Archiater and Knight von Linné, whose loss can never be sufficiently lamented by us, made hickory a variety or kind of white walnut which can be found in synonyms,[2] cited in the later editions of *Species Plantarum*, page 1415 [ed. 2, 1763], whereas the name given by Gronovius belongs to the white walnut, and those of Catesby and Plukenets belong to the walnut tree called hickory. It is given the specific name of *Juglans (alba) foliolis septenis lanceolatis serratis, impari sessili*,[3] in *Species Plantarum* on the page just mentioned. It might well on closer examination be considered a new species. When the characteristics are given which differentiate these species, I wonder if the shape of both leaves and nuts of the walnut family will not predominate.

There are three varieties or species of these walnut trees found in North America. Two of them are quite widely distributed, but the third is not so common. In a few words I will tell how these three can be distinguished from one another.

The first variety.[4] The outer bark is very uneven and rough on all sides of the trunk, because it forms large plate-like scales which fit tightly to the trunks in their upper halves but bend outward at the lower end rather like the bark of thick old junipers. While the nuts are still surrounded by the husk, they are about the same size as our wild or sour apples, round, but slightly flattened and four angled. The husk is very thick and has four deep grooves running lengthwise with a shallow groove between each. When the nuts are ripe, the husk divides into four parts and falls away. The nut which lies within this husk is not much larger than a nutmeg, round, but somewhat flattened, with four equidistant ridges running lengthwise. The nuts are pointed on the end. The shell surrounding the kernel is quite hard, so that it is necessary to use a hammer or some like tool to break it. The

[1] The article by Pehr Kalm which is here translated and edited by Esther Louise Larsen appeared under the title, "Om Egenskaperne och Nyttan af det Americanska Valnöt-Trädet, som Kallas Hiccory," in the Kongl. Svenska Vetenskaps Academiens, *Handlingar*, 39:262–283 (1778). For a list of the articles by Kalm which have been translated and published by Esther Louise Larsen, see *Agricultural History*, 17:172 (July 1943). Mrs. Esther Larsen Doak's address is R. F. D. No. 4, Crown Point, Indiana.—*Everett E. Edwards.*

[2] Carl von Linné (Linnaeus) died at Uppsala on Jan. 10, 1778.

[3] *Carya alba* (L.) K. Koch.

[4] *Carya ovata* (Mill.) K. Koch, the shell-bark or shag-bark hickory and *Carya laciniosa* (Michx. F.) Loud., the big shell-bark or king nut both occur in the region in which Kalm traveled while in North America. The first variety may well include both of them.

kernel is sweet and has a delightful flavor, although it is very small in comparison with that found in the European walnut. Herbalists have given this species the following names: *Nux Juglans alba Virginiensis.* [Mark] Catesb[y, *The Natural History of*] *Carolin*[*a*], 1:38 [London, 1731–43]. *Nux Juglans Virginiana alba, fructu nucis moschatae simili, cortice glabro, summo fastigio velut in aculeum producto.* [Leonard] Pluk[enet], *Alm*[*agestum, botanicum, sive Phytographiae Plukenetionae*, 2]:254 [1669]. *Juglans alba, fructu ovato compresso, cortice squamoso.* [Joannes Fredericus] Gronov[ius, *Flora*] *Virg*[*inica*], 118 [1739–43]. The French in Canada call these nuts *noix doux* and *noix ronds.* The Dutch in the Province of New York call them *kiskatami*, a name which is said to have come from the Indian.

The second variety.[5] The bark on the trunk is fairly smooth, similar to that of our elms and oaks. The nuts, together with the husks which surround them, are about the same size as a nutmeg or only half the size of the first variety when still surrounded by the husk. They are round in shape. The husk is quite thin and has at the upper end four raised equidistant ridges. When the husk is removed the nut itself is about the size and shape of a nutmeg, nearly round and drawn to a sharp point at the end. The shell which surrounds the kernel is quite thin and can be broken to pieces without difficulty. Although these nuts are small, they have a large kernel which is so bitter, when it is fresh, that it is usually not eaten. When the nuts have been lying for a time during the winter, this bitterness disappears. They are then eaten by the common people and others who had collected them the previous autumn. Herbalists call this species *Juglans alba, fructu minori, cortice glabro.* Gronov[ius, *Flora*] *Virg*[*inica*], 118. *Nux Juglans Caroliniensis, fructu minimo, putamine levi.* Catesb[y, *Natural History of*] *Carol*[*ina*], 1:38. The French in Canada call the nuts *noix ameres* and the Dutch at Albany *bitter nutte.* Some of the English call them *pignuts.*

The third variety resembles most the one just described or the second variety.[6] The nuts are just as small, and they possess equally thin shells. The kernels in them have a sweet and pleasant taste, even when they are entirely fresh.

Still other varieties of this one or perhaps entirely new species are said to be found further south in Virginia and Carolina. *Juglans grisea,* of Archiater and Knight von Linné, is likely one of them.

The English in North America call all the varieties described above by the common name *hiccory* or *hiccory tree.* The Swedes, living there, call them one and all by the name *Nötbom,* a name which they got from the Dutch when they lived among them.

Habitat. All three varieties or species of hickory which have been mentioned are common in the woods of North America in Virginia, Maryland, Pennsylvania, New Jersey, New York, and New England, as well as those places further up in Canada which lie in the same latitude as the provinces just mentioned. They were found in quantities around Montreal, but I could not find any of the American walnut trees growing wild around Quebec, except the white walnut which grew in the woods. In the above-named English provinces, in the wilderness between Albany and Canada, and in the land of the Iroquois, the forests consist largely of these trees, which grow to the same height and circumference as our largest oaks and pines.

Soil. Hickory always grows in dry soil, either rich or poor. It does not thrive on wet lowlands. It usually prefers places similar to those which our oaks select. It is also often found in rather poor ground. On the small island lying near Soult au Recollet between the Isle of Montreal and the Isle of Jesus, the first two varieties of this tree grew in great numbers all over the mountains, in the poorest soil consisting of a gray limestone with scarcely two hands of soil above the roots and solid rock below. The water had washed away all the soil on the side toward the lake, so that the roots were entirely bare. The trees thrived anyway and were full of nuts. It was difficult to understand how they got any nourishment. In the land of the Iroquois I often found an abundance of them on dry wooded hills. They were common on the pine barrens between Albany and New York. On the poorest and driest sand barrens in New Jersey where few plants thrive, they were quite numerous. Even toward the sea where the soil was poorest and driest, these trees occurred here and there, although they were small, crooked, and irregular in shape.

Time of flowering. In the year of 1749 on May

[5] *Carya cordiformis* (Wang.) K. Koch.

[6] *Carya glabra* (Mill.) Spach.

7, new style, they began to bloom in Pennsylvania, and in the same locality on the same day of the following year, 1750, the first flowers appeared.

Leaves came out. In Pennsylvania a number of trees which were well exposed to sunlight had quite large leaves by May 1, 1749, but on others, growing in the forests, the leaves had not yet come out. The following year, 1750, no leaves had appeared by April 22; but by the 28th of the same month the hickory with the shaggy bark already had tolerably large leaves, and the hickory with smooth bark had very small leaves, which had just come out. It is here noted that the hickory with the shaggy bark nearly always produces leaves several days earlier than all of the other American walnut trees.

The time at which the nuts ripen. At the end of September and the beginning of October, new style, the nuts ripen in both the English colonies and Canada. When ripe the walnuts fall gradually of their own accord and when the trees are not too close to each other, the ground under them is covered with nuts to a depth of more than two hands by the end of October. The first and last autumns I was in America, namely 1748 but more particularly 1750, these trees produced an unusual quantity of nuts and, as related, more than they had produced for several years previous. Most of the crop remained on the ground in the forest as food for swine, squirrels, and other wild animals, since no one attempted to collect such quantities. In 1749 there were very few of these nuts in Pennsylvania, but an abudnance was produced in the forests of Canada and in the wilderness between Canada and Albany, as well as at Albany itself.

The time at which the leaves fall. In Montreal they began to lose their leaves in quantities on October 2, 1749, new style. The reason for this was a fairly heavy frost which came the night before. When I travelled through the wilderness between Canada and Albany during the latter part of the same month, I found that these trees, even there, had lost all their leaves. In Pennsylvania the leaves began to wither and fall at the end of October.

The age and circumference judged by the annual rings. I counted the annual rings of various hickory trees in order to see how fast they grew. The increase in circumference was less on richer ground. The bark was not included in measuring the diameter.

A cross section had				17	annual rings,			diameter	3¼	inches	
"	"	"	"	61	"	"	"	1	*qvart*[7]	3¼	inches
A	"	"	"	66	"	"	"	1	"	¾	"
"	"	"	"	68	"	"	"	2	*qvarter*	exactly	
"	"	"	"	83	"	"	"	1	*qvart*	5¾	inches
"	"	"	"	118	"	"	"	1	"	2	"
"	"	"	"	128	"	"	"	1	"	4½	"
"	"	"	"	142	"	"	"	2	"	4	"

It should be mentioned that several Swedish and English farmers in Pennsylvania and New Jersey insisted that both these trees, and several others in this country, produce two annual rings during certain summers. They have found several examples of this, namely: When trees of a known age have been cut down and the annual rings counted, there were nearly twice as many rings as the tree's years in age; at least the number of annual rings was always greater than the number of years since the tree had been planted. I can not possibly be the judge of this. In this connection, I am concerned with several experiments which I have made. I cut down some small trees which had grown in places formerly used as fields and counted the annual rings. When I judged the tree's age to be sixteen years by the annual rings, I was told that that was impossible, since the same place was last used as a field ten years ago, and since it did not contain the smallest seedling at the time it was abandoned. Is it not possible that the trees in this country sometimes develop two annual rings because of weather conditions and other contingencies? Is it not possible for trees to develop two annual rings in those years when the leaves are entirely eaten up by insects in the middle of the summer, thus causing a new leaf growth? This is what occurred in Pennsylvania in 1750. A discussion is given in K[ongl.] Vet[enskaps] Acad[emiens] *Hand[lingar*, 25]:124 [139] (1764).

Characteristics. Although hickory grows to be a tree of considerable height and thickness, it is not valuable for timber or fence posts since it rots quickly when exposed to rain and changes of temperature. It is more quickly and completely riddled by insects than the wood of any other tree.

It seems almost as if these trees in growing twist the original annual rings toward the sun in one, two, or three years and continue to repeat this rotation one or more years since the annual rings run into and cross each other. For this reason these trees are usually more difficult to split than any others, and it is usually necessary to drive

[7] A *qvart* equals ¼ of an *aln* or about 6 inches.

wedge against wedge for the full length of the block. Splitting is easier when the wood is old enough to have darkened slightly.

If a tree is tapped in the spring, a heavy white sap flows out of the wound. A type of fat is found on the leaves of shag-bark hickory, particularly in the spring, while the leaves are still young. Hickory is one of the first trees to begin growth when a field once cleared from forest is abandoned. Doubtless the nuts are transported by animals or other agencies.

If a heavy night frost comes in the spring after the leaves have appeared, they usually freeze, particularly on the young and delicate trees, but new leaves are sent out immediately. An example of this is given in my *Americ[anska] Resa*, 3:99. Winter injury of large hickory trees in Pennsylvania has never been observed, but I have been assured that a number of large hickory trees were killed during an unusually cold winter near Albany in the Province of New York.

Uses. When this tree is tapped in the spring, a thick white sap flows from it, as previously mentioned. If this sap stands for a time in a vessel, it begins to stiffen and becomes thicker. Boys and other young people collect this sap and eat it without experiencing any discomfort. In the spring bees make an appearance on it and help themselves. In some places in Canada and Albany the inhabitants collect as much of this sap as possible and cook sugar from it, which is said to be sweeter than that obtained from the sugar maple. The hickory gives such small quantities of sap, however, that it does not compensate for the work.

Nuts of the hickory with the shaggy bark are about the size of a large nutmeg. When both the outer husk and the very hard shell surrounding the kernel are removed, the meat is very sweet and delicious. The nuts of the hickory with the smooth bark are a little smaller, about the size of an average nutmeg. The shell around them is very thin. They also have a fair size kernel which tastes rather bitter when fresh. When they have been lying for some time, however, the bitterness disappears, and they taste good. In the autumn nuts of both types are collected in sufficient quantities and kept until needed. During autumn and winter evenings, it is amusing to crack the nuts and eat the kernels. When people call on each other in the afternoon, one or several plates of these nuts are usually set out, either whole or cracked, to be eaten with tea or later. If the nuts are stored in a fairly cold room, they will remain fresh through the entire following summer. I ate some on July 21 which tasted as fresh as those eaten during the middle of the winter. Old Swedes living in New Jersey related that, during their childhood when the Indians lived among them in large numbers, they made a good sweet milk from these nuts in this manner: They collected large quantities of nuts, some hickory and some black walnuts. The nuts were pounded to pieces, the kernels removed and ground into a flour which was mixed with water. The mixture looked like milk and was just as sweet and agreeable in taste. Among other delicacies, if I may so call them, which the savages set before a traveller, is a flour made from broken hickory nuts with shells and kernels mixed. On very special occasions a small shell is brought forth containing flour made from the hickory kernels alone which almost vies with almonds in flavor.

Old Germans told me that at the beginning of this century, when they arrived in Pennsylvania and bought land, they were forced to live on hickory nuts, pumpkins, and the like for the first two years until they had cut down the forests and made fields.

Squirrels of all kinds, swine, and various other animals help themselves to these nuts. I noticed, where squirrels were kept in cages, a good quantity of these nuts had been collected for their food. During autumn and for almost the entire winter, swine ran in the forests, where they had abundance of food from acorns of various types, chestnuts, nuts from hickory and other walnut trees, and beech nuts.

Of all the kinds of trees in North America, particularly in the English colonies, hickory is by far the best fuel, for it burns better and gives far more heat. If placed on the fire, it is only a short time before it bursts into flame, in contrast to other green woods which lie hissing on the fire a long time before they begin to burn properly. It would seem, therefore, that hickory has more fat in it than other trees. This wood is said to have one disadvantage, namely, when it burns it gives a strong clear flame which injures the eyes, particularly if one looks into it for any length of time.

Because the wood of hickory was better than that of any other type of tree for fuel, it was also more expensive. In the autumn of 1749 one *famn*

of hickory wood cost 18 shillings, Pennsylvania mint, in Philadelphia.[8] During the following winter the price shot up to 30 shillings, which I was assured was the highest it had ever been. In the little town of Trenton 9 to 10 shillings, Pennsylvania mint, was paid for one *famn* of hickory. Hickory is now said to be three to four times more expensive everywhere than it was thirty or forty years ago. This is not surprising, for destruction of the forests everywhere was as unrestricted as it had been in ancient times in Sweden and Finland, because it was believed that the trees would grow again very quickly. Philadelphia contributed several reasons for the increase in the cost of wood. The forests near the city had been cut away entirely, and it was necessary to go greater and greater distances to get it. The city increased yearly in size and number of inhabitants. Several wood-consuming works were established. Fire in the fireplaces was kindled in the English fashion, that is, a damper was never used, but one fire after the other was built during the winter. However, a number of people had already begun to sleep near ovens, some of which were made of iron plates, some of bricks, and some of tile.

Although hickory is chosen for cooking food and heating rooms, it is not considered suitable for use in brick kilns. It produces so much ashes that the holes between the brick stones are clogged, and the heat does not penetrate to fire the bricks evenly. Therefore hickory is never used in the brick kilns around Philadelphia, but ash, maple, and oak of all kinds are used. Of all the trees just named, the so-called black oak is considered best for this purpose.

Similarly, hickory is considered unsatisfactory for the making of charcoal to use in iron foundaries and blast furnaces. The reason given was that hickory seldom becomes completely charred. On the other hand, the charcoal of the black oak surpasses that of all other types of wood for use in the iron work just mentioned.

Although this tree often vies with oak in height and circumference, it is not suitable for timber and fencing material, since, as previously mentioned, it rots quickly. It is considered neither suitable nor beautiful for cabinet work.

From small hickory seedlings whose annual rings occasionally are rather wavy, beautiful walking sticks were made in Philadelphia that resemble our mountain-ash canes which are whittled by old men in some localities. A carriage maker at Philadelphia manufactured a large quantity of these canes which he sent to be sold in the English, French, and Spanish islands of South America. It is said that he got as much as 3 shillings apiece and occasionally even more. Canes of this kind of hickory are extremely tough and do not break easily. Canes are also made from ordinary hickory, and they are varnished, but they are neither as good nor as expensive as the first type. Such a cane cost only 1 shilling in Philadelphia.

Since this wood is extremely tough, it is used for various tools such as ax handles, mallets, wooden hammers, and the like.

Indian baskets, some of which are of considerable size, are chiefly made of split hickory.

The young seedlings and branches of hickory are quite tough and can be broken only with great difficulty if there is no knife available to cut them off. They must be bent several times at least before they will break off. Therefore they, and particularly the young seedlings, are used commonly by cooper and carpenter to make barrel hoops and similar wooden bands. For the same reason young branches and seedlings are used to fill the same needs as the birch switches used by us. Old Swedes related that when their forefathers first came to this country they promptly set up fences around their fields and meadows. These fences were made of materials like those commonly used in Sweden and were bound together with hickory thongs. The settlers were obligated to give up this practice for they found that scarcely two years passed before the thongs were so completely rotted out that the fences fell to pieces. They were, therefore, forced to build the type of fence called "worm fence" which is described in *Americ[anska] Resa*, 2:15, and the following pages. Nevertheless, I saw some places, for example, around Albany and Fort Frederic, where young seedlings and branches of this tree were still used for fence thongs. But there was the complaint that it was necessary to replace these thongs every three or four years.

An extraordinary and quite commonly used broom is made from this tree in this manner: A pole of hickory $2\frac{1}{2}$ or 3 *alnar* long and about as thick as a man's arm or thicker is used.[9] At about an *aln* from the thickest end thin narrow shavings are carved lengthwise so arranged that

[8] A *famn* of wood equals a cord.

[9] An *aln* is 24 to 36 inches.

the shavings are not cut loose but remain attached to the wood below at about a *qvart* from the thick end. As the shavings are cut loose they are bent downward one on top of the other. Carving and bending downward of these thin shavings is continued around the stick for several revolutions until the quantity necessary for a broom is obtained. A band or lace is later bound around the stick and over the thin chips or shavings in order to hold them together. Finally they are all made the same length by cutting the lower ends even. The length of the chips or shavings of the lower flattened end is usually 2 *qvarter*. The upper end of the stick is made smaller and smoother, so that it can be used as the handle of the broom. Since this tree is one of the toughest it serves this purpose rather well.

The bark, which is quite tough, is used for the same purpose as bast of linden. When boats are made from bark, they are usually sewed together with the bark or bast of hickory.

Of all the kinds of trees from which the savages in North America make bark boats the bark of the hickory with the bitter nut is considered the most durable. Therefore, when they wish to make an unusually large bark boat, capable of carrying heavier loads, they select a big hickory of this type from which they carefully remove the bark. These bark boats are entirely different from the American birch-bark boats which are made from the bark of our ordinary birch. In contrast to them, the bark boats are made from a large piece of bark in the manner described in my *Amer[icanska] Res[a]*, 3: 219, and the pages following. They are usually made from the hickory just mentioned, alder, or chestnut trees. Indians of the so-called Six Nations, which the French designate by the single word Iroquois, make use of such bark boats. Our common birch is not usually found among them, or at least it is very rare.

It is said that a pretty yellow dye, which sets in both wool and linen, can be made from the bark of the hickory with the bitter nuts. Others maintain that a yellow dye can be secured in the usual fashion from the bark of both kinds of hickory.

Mr. Benjamin Franklin, a man now famous in the political world, told me that at different times he had drunk tea cooked from the leaves of the hickory with the bitter nuts. The leaves are collected early in the spring when they have just come out but have not yet had time to become large. They are then dried and used as tea. Mr. Franklin said that of all the species used for tea in North America, next to the real tea from China, he had in his estimation not found any as palatable and agreeable as this.

In the spring of 1750 when worms so grievously attacked the trees in Pennsylvania, the account of which may be read in Kongl. Vetenskaps Academiens *Handlingar*, [25]:124 (1764), they ate all the leaves on the hickory with the smooth bark, but they generally passed by the hickory with the scaly bark, except when they had nothing else to eat.

In some places on the island of Montreal in Canada, at the end of September 1749, I found large hickory trees of the type with smooth bark whose leaves were completely eaten by worms. But I was unable to learn what kind of worm it was; since none of them appeared, they had undoubtedly undergone their metamorphoses. They may possibly be the same as those which caused devastation in Pennsylvania in 1750, as they had a liking for the same kind of hickory.

Petrified hickory, or hickory in which the trunk has been transformed to stone, is found in the digging of wells and cellars in many parts of Pennsylvania and New Jersey. Mr. Lewis Evans, engineer, author of the fine map of Pennsylvania, gave me a piece of this hickory transformed into stone, which he said he himself had taken from excavations in Cohansey Creek. An entire thick section of hickory with the bark attached turned to stone was found there. This piece is so hard that it produces sparks when struck against steel. The veins and fibers characteristic of hickory can be seen as well as the annual rings. All fibers run in a straight line and are parallel. The color of such petrified hickory is white tending slightly toward yellow. The Swedes in New Jersey had pieces of petrified hickory which they used as whetstones for sharpening knives.

Hickory nuts are found deep in the ground in various places in Pennsylvania and New Jersey. An Englishman told me that with his own eyes he had seen a large quantity of hickory nuts, found at a depth of 20 feet, when a well was being dug about 50 *alnar* from the Delaware River. I heard others tell that in the digging of wells not far from the same river hickory nuts, charred chunks of wood, pine timbers, and the like were found at considerable depths, which seems to indicate that the river Delaware was much wider in former times than it is now.

If these nuts are planted in the ground when they are fresh, they nearly always germinate the following spring. In Philadelphia I set some in the ground late in the autumn of 1749. The following spring of 1750 a small tree came up from nearly every one. But it will be quite a problem to get the fresh nuts from America to Sweden. If they can be kept constantly in a cold room, they will remain fresh for a good while, but in warm-rooms they become rancid quicker than other nuts. By far the greater part of these nuts would become rancid during shipment. I was supplied with a considerable quantity of these nuts when I left America. On reaching Stockholm in May 1751, I gave out most of them to various individuals who take pleasure in experimenting with them. I have not received any information about what luck they had. I planted the few I had left when I reached Åbo in September of the year just mentioned. I had every reason to believe that they would not germinate for I found every other one which I cracked to be spoiled. Here at Åbo I did not have the pleasure of seeing any of them come up, although I should think they could stand our climate. They grow wild in quantities both at Albany and Montreal, where it is nearly as cold as here during the winter.

Since there are several large trees of this type to be found in England where they were raised from nuts brought from America, it might be safer to obtain nuts from there late in the autumn and plant them immediately the same autumn. They should not become rancid on a short sea voyage. But another question comes up: do you think our summers are so warm and so long that the nuts would succeed in ripening? In North America where the summer lasts and the heat is far greater than here, they do not succeed in ripening before the end of September or the first of October. During my trip from Albany to New York in 1750, I found the nuts were not yet fully ripe on September 21, new style. How can we expect anything different with our summers which are much colder and shorter? The following answer can be given, that plants from lands lying further south, when planted in a land lying further north, gradually adapt and adjust their time of ripening to the locality which is their new home. Numerous experiences corroborate this. I will omit other cases and cite only that of the black walnut tree. It grows in exactly the same localities as hickory in North America, except that it is found further north. The nuts do not ripen much before hickory. Nevertheless, it is found, as mentioned at the beginning of this discussion, that these nuts succeed in ripening here at Åbo during warm summers.

NEWS NOTES AND COMMENTS

VERDOORN'S MANUAL

Incident to the execution of his projected *Index Botanicorum*, Frans Verdoorn has issued a manual and prospectus entitled "On the Aims and Methods of Biological History and Biography with Some Notes for the Collaborators of the *Index Botanicorum*," as *Chronica Botanica*, 8(4):425–448 (Autumn 1944). The so-called bibliographic, enumerating, dogmatic, psychological, philosophical, anecdotal, and comparative methods of biographical and historical research are summarized, evaluated, and illustrated. The need of a biographical dictionary of botanists is discussed, and the nature of the projected *Index Botanicorum* is outlined. Scholars who wish to cooperate are requested to write to Mr. Verdoorn, Chronica Botanica Co., Waltham 54, Mass.

RAFINESQUE'S LIFE OF TRAVELS

A complete and verbatim reprinting of C. S. Rafinesque's autobiography, *A Life of Travels and Researches in North America and South Europe* (Philadelphia, 1836), has been issued as *Chronica Botanica*, 8(2):291–360 (Spring 1944). Elmer D. Merrill has supplied a foreword, and Francis W. Pennell a critical index. Although his name is primarily associated with taxonomic problems, Rafinesque delved into many diverse fields, and his autobiography has, therefore, a wide appeal. Copies may be secured from Chronica Botanica Co., Waltham 54, Mass. The price is $2.50.